

MINICAM

PHOTOGRAPHY

MAY
25c



SHOOT AT
100,000 OF
"SECOND"
PAGE 2

HOW TO TAKE GOOD PICTURES" P.13



Taken at 1/100,000 of a second! Dancers frozen in mid-air by miniature lightening! Any camera can be used to take super-speed pictures. For directions for building a speedlite unit, see the article beginning on page 18. Photo by Gjon Mili.

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MINICAM

THE MINIATURE CAMERA MONTHLY • FOR EVERY CAMERA USER

EDITED BY WILL LANE, A. R. P. S.



"Sex Without Sterility"

Sirs:

You've smashed through a thousand miles of silly prejudice in "What is a Sex Picture," by Alexander King. (April MINICAM.)

Hitherto the majority of our advisors have told us what not to portray! It seems only the completely sterile picture could be called "Art." In highly polished phrases self-styled critics declare we must obliterate any sign of sex or life from nudes to impress a so-called aesthetic audience, who, it seems have become so

COVER

Kodachrome...by Tamis Maddick and Mead Herrick

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MAY, 1940

VOL. 3, No. 9

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Model "O" Praxidos takes negatives 6 x 6 cm. or smaller. Has a 3" Anastigmat f/4.5 lens with diaphragm; condenser; reflector; negative holder for cut or uncut film. Gives baseboard magnification up to about 7 diameters. Complete with 75-watt special enlarging bulb, mask and handy light control switch. Now only..... \$34.00

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sterile that all that possibly can still give them a thrill, is pattern and design.

J. A. BODINE.

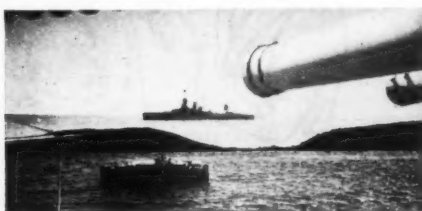
Milwaukee, Wis.

Alexander King's Article this month also will be a sensation, but in another field—that of high speed action photography. It begins on page 18.—Ed.

"No Sabotage"

Sirs:

I was ship's photographer on board the U. S. S. Arkansas, in Puerto Rico. . . . When I delivered some prints to a crew member, he returned the enclosed snapshot saying, "I didn't take this one." No one else would accept it.



The mystery was not cleared up until days later. . . . What had happened is this. I was making contact prints so fast that I accidentally left a negative in the contact printer. As a result the next print was from two negatives on top of each other . . . and not due to foreign agents, spies, etc.

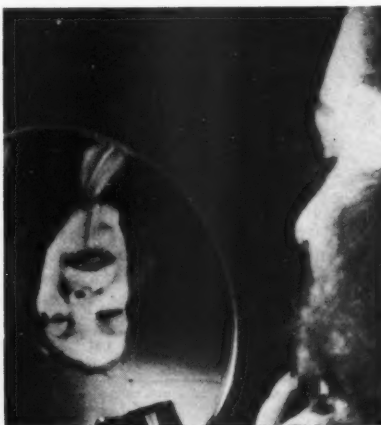
A. VON BIBLE.

U. S. N. T. S. Band,
Great Lakes, Ill.

"No Girl Could Do It"

Sirs:

The cover of one of the photography maga-



zines this month shows a girl applying lipstick while using the reflector of a flash synchronizer as a mirror. The wife and I felt the idea was phoney. Trying it proved we were right. No girl could properly apply makeup using such a distorted and upside-down reflection! The enclosed picture, taken over the model's shoulder, shows what she would see in a reflector of this type.

RALPH HABURTON.

Cincinnati, O.

Unacceptable Photomailers

Sirs:

A lot of folks are getting stuck with envelopes which do not meet postal requirements for mounted salon prints. The Post Office's October supplement, 1939, says:

The order of July 20, 1936, which appeared in the August Supplement to the 1936 Postal Guide, is hereby modified to read as follows:

"Postmasters are cautioned against accepting flat unframed mounted photographs or pictures in mailing envelopes that are not properly reinforced with stiffening material. Many of these envelopes are known as photomailers and do not meet the postal requirements.

"These mailing envelopes or photomailers must have enclosed two sheets of strong double-faced corrugated fiberboard the full size of the envelope with the direction of corrugation of one at right angles to the direction of corrugations of the other in order to give proper protection to contents.

"Postmasters should take this up with the manufacturers of photomailers and other mailing envelopes advising them that these envelopes when intended as containers for flat unframed mounted photographs or pictures are not acceptable without the proper reinforcement."

E. H. PROCTOR.

S. S. Brazil.

"Thanks and Regards"

April 7, 1940.

Sirs:

Many thanks for your assistance in procuring my missing back issue of MINICAM by printing my letter last month in "In Focus." Received ten cards and four copies. Took first that presented itself. Returned the rest. Would you please insert a thank-you card in "In Focus?" To all from New York, Georgia, Pennsylvania, Illinois, N. Dakota and California who replied—thanks and regards.

F. E. C. HILLIARD.

Oakland, Calif.

"Lots Has Happened"

Sirs:

Lots of things have happened in this country since your last letter. Must tell you again how much we enjoy "MINICAM" every month. This is left around my (officer's) mess when I am finished with it, and the interesting articles are often discussed by the keen fans. Un-

COLORFUL

Springtime!



Show It In Full Glory

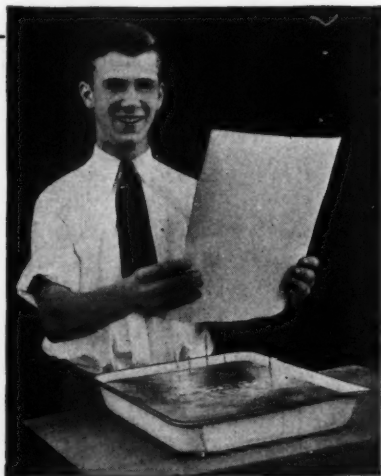
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fortunately on account of this war the subject matter is very limited. You are not allowed to take troops, planes, wrecks, etc., in fact anything appertaining to the war services. . . .

WM. WATSON WRIGHT.

Bournemouth, England.

Pre-War Carnival

Sirs:

Upon seeing the picture of the statue atop the Russian Pavilion being dismantled at the World's Fair, (March MINICAM), I was prompted to send the enclosed snapshot. It was taken in Cologne, Germany, in the forenoon of Monday, Feb. 28, 1938.



The tableau showing a beheaded Stalin was in the parade on the occasion of the annual "Rose Monday" Carnival. It might be different there, however, now that Joe and Adolf are pals.

L. J. MARSHALL.

Watrous, Sask., Canada.

Flash Number Tables

Sirs:

If all the pages of all the copies of MINICAM I have bought (and I think I have every issue) were blank except the two containing the tables, I still would feel I had received good value. (March and April MINICAM). I have tried the data on synchronized flash shots with my Super Sport Dolly and "open flash" shots with my Graflex. Through use of the tables I am getting better negatives than I ever did before.

The other day I had to make a shot in a creamery where everything—the walls, the machinery, the butter and milk, the uniforms and complexions of the workers—was a brilliant and uncompromising white. I felt like a blackberry in the snow and was more than a little dubious about the outcome of an "open flash" shot in such surroundings. I set up the Graflex and consulted the MINICAM tables, stopped down one more on account of the blinding whiteness, and touched off the number

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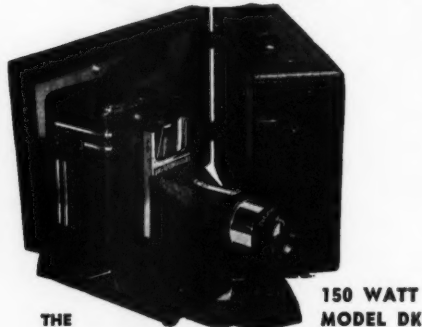
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2 Superflash. It turned out to be the best negative of its kind I ever made.

It's my belief nine-tenths of all flash shots are over-exposed because of uncertainty on the part of the photographer. The new MINICAM tables should counteract that by giving the cameraman more confidence. I clipped the tables and have them mounted permanently in fabricoid covers.

HOWARD BRISCO,

Bristow, Okla.

"Chamberlain's Practice"

Sirs:

On page 71, Apr. MINICAM, the phiz might be less disgusting without the cigarette. It must taste awful; he better follow Prime Minister Chamberlain's practice and drink barley-sugar water to remove bad taste!

W. H. WILCOX.

Tacoma, Wash.

Champlin 17

Sirs:

Some of the chemicals required for this new developer, described in last month's MINICAM, are not stocked by my photo supply dealer. Where can I obtain the following: Diethylene glycol, triethanolamine and chlorhydroquinone?

ALBERT WARLER.

Philadelphia, Pa.

They should be obtainable from any chemical supply house. Also from the Chemical Supply Co., whose advertisement appears on page 100.—Ed.



"The observer must be daffy—he says shoot the next one at one twenty-fifth, 44.5."

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FIG. 1



FIG. 2



FIG. 3



FIG. 4

Though affording far superior results, the P & H PROCESS is no more difficult than ordinary developing procedures. Here is a brief description using the P & H Unit, Deep Tank and Perol 33 Developer: 1. Remove film from roll or cartridge. Immerse in solution for approximately one minute. 2. Wind negative out of tank into the P & H Unit. Close unit and lay aside for approximately 15 minutes. This allows development to proceed to the correct density

by means of the developing agent already sealed in the emulsion. 3. After development, remove knob and casing, withdraw core and remove film. Fix, wash and dry in the usual manner. 4. If desired, roll film units may be used with your regular reel and tank. The film is saturated in the tank, after which it is wound off the reel into the P & H Unit for development as above.

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HOW TO TAKE GOOD PICTURES

"LET'S START AT THE BEGINNING"

***The fundamentals of
picture taking pre-
sented for beginners***

By CLAYTON WOODMAN

LET'S get one thing settled, right now. The photographic bug, I assume, has bitten you. That's fine. But, with the heady poison of that bite in your system, are you starting out on your photographic career primarily to make pictures, or are you more concerned with the science of optics, the complexities of photographic equipment, and the exact size of a circle of confusion, computed to four decimal places?

If the making of pictures is your urge, stick around. But if you're one of these scientific persons, you'll find our talk pretty boring. Flip over a page or two, and you'll find things that won't flinch when you point a slide rule at them. And have a dandy time for yourself. *Very well, let's go.* You and I are interested in photography because we like to make pictures. We enjoy looking at the world, and find in the passing show many things that have a lot more than ordinary value. Fact is, the best of us find very few things that are ordinary. We're too much alive to be bored.

And we see things from an individual point of view. Two or three of us may be at the same spot at the same time, but when our cameras start clicking, we don't go after exactly the same things. You wouldn't be satisfied with my shots, nor I with yours. That's because we are individuals, with different eyes, different minds, different types of perception and appreciation—and it's exactly right that this should be so.

The only trouble is that sometimes we fail to achieve exactly the picture we had in mind when we snapped the shutter. These failures bother us, as they should, and that's why we are taking time to find out a few



Thousands never have the urge to make pictures until there's a baby in the family. Then, bursting with pride, they go to work. There is one basic rule for baby pictures—don't pose them. Let babies be their natural, charming selves.

In a strange place (see diagrams below) we see more than we do in familiar surroundings, because memory and experience are not able to fill in the gaps. We use a kind of optical shorthand in looking at familiar scenes—one thing, such as the door of a house, serving as a symbol for the whole. A stranger, looking at the same place, will see innumerable details. Cameras are always strangers.

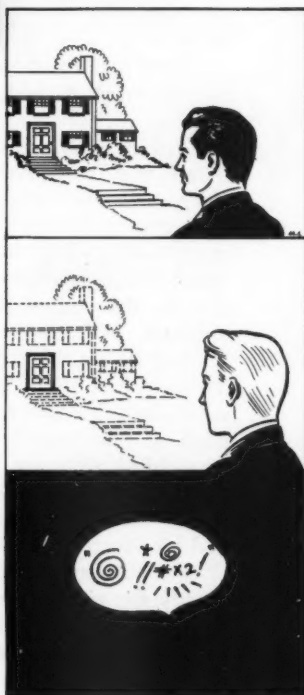
The medium of photography is light and without it no image can be formed. No light, no picture!

of the whys and hows of picture making, with all physics, mathematics and black magic omitted.

Light, And Nothing But! The first, the all-important fact of photography is this—it's a matter of light. No light, no picture. Good light, easy picture. In other words, a camera has only one thing to work with—light. It has the sense of sight, but nothing else. When we see something, we practically never rely entirely on our eyes for our appreciation of that thing. What we see is elaborated by our senses—hearing, feeling, smelling—and by the other complications introduced by our brains, things like memory or judgment or prejudice.

We actually use our eyes very little; we use a kind of optical short-hand, in which we glimpse portions of a scene and, from memory and experience, fill in the rest of it mentally, without doing much once-overing with our eyes. That's why we see things more vividly away from home; we must, because our memory and experience are not able to fill in the gaps.

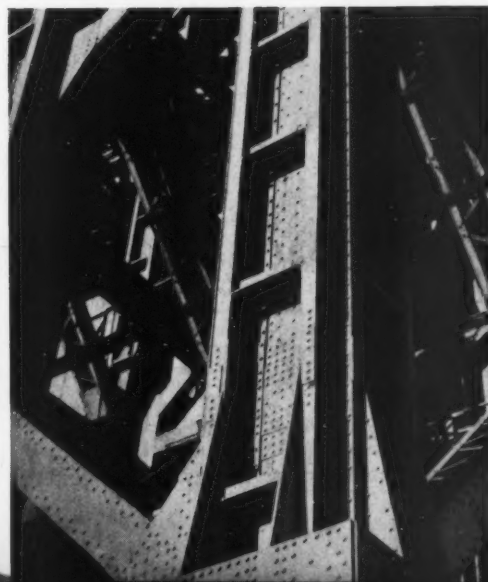
Keep that idea in mind. As far as your camera is concerned, everything it "sees" is a totally new



Many beginners buy a camera when they are about to travel. Some develop a picture sense, while others buy picture postcards. This picture of Mount Vernon (right) combines pictorial with record values.

Here is picturesqueness (below) — another lure for the beginner. Much is added to the atmosphere of old Tour Solidor in Brittany by the inclusion of the foreground arch.

Picturing the tempo of today as expressed in the patterns of steel is one reason for taking up photography.



experience. And so it very naturally looks things over carefully, deliberately, and entirely without prejudice. Don't expect your camera to have any sense; the finest camera ever made is just a seeing fool.

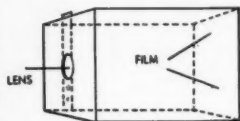
It's the man behind the camera that's important. If that man has good eyes but a feeble brain, his pictures will be silly, even though his camera may be a thousand dollar super-ultra-smoothie. On the other hand, a man like Steichen can make beautiful shots with a Baby Brownie.

Take a good look at a camera—any camera. It is, as Figs. 9 and 10 indicate, essentially much like an eye. It has a lens; so has the eye. And the plane occupied by the film corresponds to the retina of the eye. The whole business is light-tight, so that light can enter only through the lens.

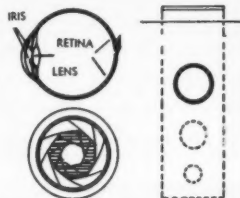
Here's what happens when you take a picture. In the instant when the lens is opened, the various tones and shapes of light in the scene before the camera are glimpsed by the lens and passed back, all nicely organized, to the film. Those shapes and tones of light are recorded by the light-sensitive emulsion of the film. Later on, when the film is developed, chemical action brings out the image in negative form. Bright parts of the image are correspondingly dark in the film; black or dark parts, having had little or no effect on the emulsion of the film, emerge clear and transparent.



Good light—easy picture. It's the light rays reflected from objects which form the image on the negative.



Any camera, minus gadgets, is a light-tight box equipped with a lens and loaded with light-sensitive film.



The iris of the eye, like the iris diaphragm of the camera, serves to cut down the quantity of light admitted. Waterhouse stops (right) are used on some box cameras.

Remember — “no light, no picture!” Obviously, if there's no light out front to be shot back by the lens to the film, there can be no effect on the film, which will then emerge from the developer as clear as a sheet of cigarette package wrapper.

In making the print, whether it be a simple contact print or a big enlargement, the process is reversed. Light is passed through the negative onto a sheet of paper which carries a light-sensitive emulsion very much like that of the film. What happens this time is that the paper records a negative of the negative—and everybody knows that two negatives amount to a positive.

Now, let's back up a moment. Like your eye, most cameras have a device for varying the volume of light passing through the lens. In your eye this gadget is the iris; in cameras it is an iris diaphragm or a lens stop. What happens to the iris in your eye when the light is very bright? Right! It contracts, so that the opening is small, thereby protecting your sense of sight from being blinded by too

much light. When the light is poor, on the other hand, the eye's iris opens wide, to take advantage of all the light there is. The business of figuring out the right diaphragm opening for any given shot can be bothersome, if you let it get that way. In another article of this series, we'll try to dope it out in a reasonable way.

There's one thing a camera has that your eye hasn't—a shutter. The shutter is a tricky little business, the sole purpose of which is to regulate the length of time the lens is open, or allowed to look at the scene you wish to picture.

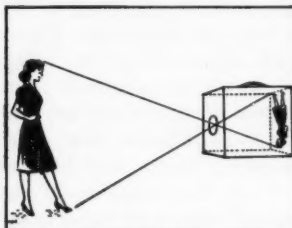
Shutters on the simplest of cameras work at a single speed, something in the neighborhood of 1/30th second. More advanced cameras are equipped with shutters which will work all the way from Time for time exposures, to fractions of a second that look a little like the national debt.

Incidentally, the reason your eye does not need a shutter is because you see continuously; there's no need to slice off

The camera lens, eternally the stranger, forms a complete image, nicely organized, on the light-sensitive film.

When the film is developed, the result is a negative image. Printing it results in a negative of the negative—a positive picture.

Taking high-speed shots of a peaceful countryside without action, except for a browsing bovine, is an example of misdirected energy. High shutter speeds are for fast action.





Whenever there is a blithe foray into the open spaces, a camera must go along, for cameras and the business of going places have a natural affinity. Many dull pictures have been made of good times because the photographer overlooked the fact that a camera is gifted with but one sense—that of sight. It has no judgment, no taste. Exposure 1/100 sec., f/5.6, yellow filter. By Meisel-Monkmeyer.

any one particular glimpse and isolate it. Your memory does that. The secret in the successful use of a camera is the suc-

cessful use of your eyes. And that gets us back to a basic text. It's the man behind the camera who counts.

● TAKEN AT



Gjon Mili crouches next to his Speed Graphic to photograph the impact of a kick. The stroboscopic lamps are in the large reflectors. Taken at 1/100,000 of a second, f22, Superpan film. Any camera can take stroboscopic pictures.

By ALEXANDER KING
PHOTOGRAPHS BY GJON MILI

GJON MILI is the world's premiere professional high-speed photographer. But my chief and personal concern with Mili comes from the fact that no matter what photo equipment he used or uses his success is primarily due to his superior capacity as a cameraman.

When Mili originally used a Contax, his pictures already bore the stamp of talent. There must be many disgruntled mediocrities who fancy that their limitations are entirely due to their inability to purchase the costliest photo gadgets. They console themselves for their lack of ability with a specious explanation that other men achieve their success because of certain enormous technical advantages. Nothing more foolish or untrue could possibly be imagined. Pictures made by Mili with an ordinary miniature camera and lights prove, first of all, that he is a photographer with a highly selective eye and an impeccable discrimination for photo-

"THE LIGHT THAT SUCCEEDED"

$\frac{1}{100,000}$ OF A SECOND

Self-portrait of the photographer taken at $\frac{1}{100,000}$ of a second while shooting a knife cutting a stream of water. For freezing the action of subjects such as pistol bullets, exposures as fast as a millionth are used.



graphic style. It is perfectly conceivable that the stroboscopic light might have fallen into the hands of some technical pedant without a shred of imagination, in which case high-speed pictures would still remain in the "believe-it-or-not" stage.

Mili lights, arranges and composes his subjects with the utmost care, and it is this painstaking, purely aesthetic approach to his work which gives it its unique and breathtaking quality. We can readily grant that any picture which has been taken at one hundred-thousandth of a second would attract momentary atten-

tion because of the implied technical miracle, but Mili's portrait work is in no sense inferior to the prints for which he has become famous.

Glance at the portrait of a Rumanian gypsy violinist on page 22. The subject has been lighted with extraordinary cleverness. The schmaltzy music practically drips into your lap and the ring on the little finger obediently glistens to the greater glory of its owner. Implied in this head is the entire saccharine, romantic quality of the music as well as the pseudo-artistic stance of the performer. Mili, who is a great lover of music,

Any camera can take high-speed action pictures. The stroboscopic light source produces a flash of extremely short duration while the shutter is open on "Time." The expressions on the faces of these acrobatic dancers could not have been obtained at any ordinary shutter speed. Exposure, 1/100,000 second at f22, using Mili's Standard Lighting arrangement with six lamps (see lighting diagrams on page 24).





The stroboscope conquers time as the telescope conquers space. The inconceivable speed and rapidity of motion in every feather of these fighting cocks can hardly be appreciated from this millionth of a second exposure.



High-speed photography transforms a portrait into an excellent character study of a gypsy violinist whose "schmaltsy music practically drips into your lap and the ring on the little finger obediently glistens to the greater glory of its owner."

particularly of folk music, successfully distilled a concentrate of its nostalgic quality within this photograph.

Now let me reiterate once more that the work which distinguishes one photographer from another is entirely due to the taste, skill and talent which operates behind the lens. The secret of Mili's exquisite photographs is not largely but only very fractionally due to his special equipment. His pictures are effective because Gjon Mili is a photo-artist.

Gjon Mili was born in the uplands of southern Albania, spent his childhood and early adolescence in Rumania, and arrived in the United States in 1923. In 1927 he received his B. S. in electrical engineering at Massachusetts Institute of Technology, and found employment as a lighting research engineer with the Westinghouse Electric Company. As a specialist and pioneer in the lighting field he has acted as consultant to various New York illustrators and photographers, among them Hi Williams, Nicholas

Muray and Edward Steichen. For the past two years he has devoted himself exclusively to high-speed photography in cooperation with Professor H. E. Edgerton of M. I. T.

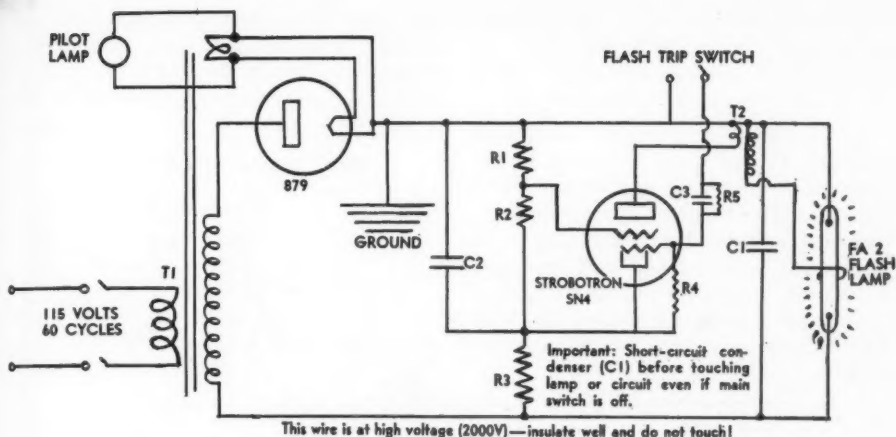
Mili seems to derive constant satisfaction from the fact that his present career represents, in a manner of speaking, an accidental by-product of Professor Edgerton's serious, scientific aims. In the same manner, the telephone was the accidental by-product in Alexander Graham Bell's search for an acoustical device which would help deaf people to hear better.

Mr. Mili has, incidentally, one of the largest privately owned photo studios in New York. In this vast room, the size of a reformed armory, he gives memorable festivities for his numerous friends and acquaintances. His zest for life, for music, for dancing, for people is so genuine that fortunately there is no danger that these celebrations shall ever become fashionable. He is that most fortunate of human beings whose life and work are an harmonious whole.

Mili modestly chooses to call himself an engineer photographer, but obviously this astringent title fails to cover his aesthetic achievements.

THE principle underlying high speed photography is different from present standard methods of news and commercial flash photography in only one aspect. It employs a very intense light source of extremely brief duration, approximately $1/100,000$ second. It is obvious that in this case the light source itself, rather than the shutter, times the exposure. Because of its short duration, the eye is not aware of any unusual brightness, although the instantaneous intensity of the flash exceeds the intensity of 5,000 photoflood lamps!

The flash is actually an electrical discharge through a krypton gas-filled tube, the energy being stored before release in a bank of condensers operating at 2,000 volts. The flashing of the tube is controlled by an electrical circuit with con-



WIRING DIAGRAM FOR A SINGLE-LIGHT HIGH-SPEED FLASH UNIT

Tubes: 1 Type 879 RCA rectifier tube.

*1 Type SN-4 strobotron tube.

*1 Type FA-2 or FA-3 argon flash tube.

*T-2 Special high-ratio transformer.

T-1 Raytheon Company (Waltham, Mass.) transformer No. U3149, primary 115 volts, secondary 1650 volts, secondary 2.5 volts.

C-1 5 to 75 microfarads (motor capacitor rated 660 volt AC).

General Electric Co., Schenectady, N. Y.

Cornell-Dubilier Co., South Plainfield, N. J.

Condensers rated 660 volts AC for motor-starting service have operated satisfactorily in this circuit. The quantity of light produced per flash is almost directly proportional to the capacity. If more than 75 microfarads are used, the life of the tubes may be short. Any condenser that can operate with 2000 volts DC and stand short-circuit discharges is satisfactory.

C-2 1-microfarad 400-volt condenser (paper).

C-3 .01-microfarad 400-volt condenser (paper or mica).

R-1 125,000-ohm resistor, 2-watt.

R-2 25,000-ohm resistor, 2-watt.

R-3 1-megohm (use two 2-megohm resistors in parallel. I.R.C. Type FC-3, 3-watt. There is high voltage across this resistor. Insulate the high-potential end well.)

R-4 1-megohm, 2-watt type.

R-5 1-megohm, 2-watt.

Sockets: 2 standard 4-prong radio sockets.

S1: Single-throw, double-pole toggle switch.

Pilot Light: 2.5-volt radio pilot.

*These items are available from Mr. M. J. Germeshausen, 84A Ellery Street, Cambridge, Mass., at the following prices, postpaid in U. S. A.:

T-2 special high-ratio transformer.....\$1.50

SN-4 strobotron.....5.00

FA-2 argon tube, straight, 8 inches long...5.00

All other items except those mentioned with a specific manufacturer are available from radio supply houses.

"SPEEDLITE"

The Speedlite is an electrically operated flash lamp giving a very powerful flash of short duration. The lamp may be flashed once every 10 seconds, and one lamp is good for thousands of flashes. The light is easily synchronized with a Compur shutter, or it may be tripped by a small switch.

SPECIFICATIONS

Lamp—Combination Krypton-Xenon flash lamp with incandescent lamp for focusing. Light output about the same as a small photo-flash bulb. Color of light, approximately white.

Flash exposure time, 1/30,000 second.

Life 5,000 to 10,000 flashes.

Reflector—18-in. aluminum on 8-ft. three-section adjustable stand.

Power Unit—Operates from 110 volts, 60 cycles.

Power required, 400 watts maximum for several seconds after each flash.

Discharge condenser, 112 mfd. at 2000 volts.

Charging time, 10 seconds.

Weight on base with casters about 45 pounds.

Speedlite unit, complete with tubes, reflector and stand—\$400.00

Replacement Tubes

Flash Tube \$20.00

Strobotron. 5.00

Rectifier, R.C.A. 1616 ...



tact being established in the shutter mechanism. It is possible to flash as many lights as are required at one time, all flashes operating simultaneously.

In illustrative photography where light modeling is extremely necessary to enhance or create appeal, the flash is joined with a regular tungsten lamp to provide illumination for light modeling and focusing. The flash tubes discharge when the shutter is fully opened and, in effecting the photographic exposure, duplicate the lighting pattern already indicated visually.

A six-light arrangement has been devised which, with minor changes of distance and angle, will illuminate a subject adequately in practically all positions. Three lights face the subject in order to give sufficient diffuse illumination suggestive of sky light. Three lights placed high and behind the subject create an effect similar to the direct sunbeam striking from a steep angle. Independent of these, one, two, or even three lights may be employed to create background effects.

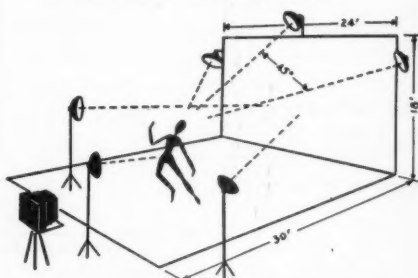
There is no mystery, there are no secrets. Since a subject cannot be suspended in thin air, Mili simply has to imagine it there and then proceed to light it. The foundation is laid up before the subject is even in the studio by setting up six lights as shown in the Standard Lighting diagram (top). From there on, Mili changes the position or the distance of the front lights depending on the particular shot in mind.

The standard set-up does very well, let us say, for a straight jump up in the air. The front light faces the subject squarely, the other two are on each side, lighting the background and the subject at the same time. The front light is placed high up and the subject kept far enough from the background so that the shadow falls on the ground and not on the background.

If the subject is turned at an angle from the camera, the lighting is modified to place two front lights, one high and one low, facing the subject straight on.

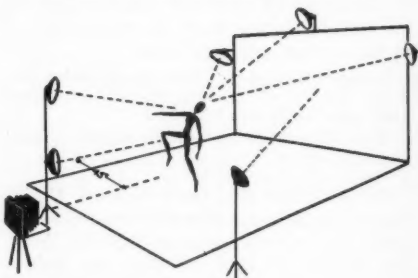
The third front light is placed on the opposite side so as to light the background more than the subject. If this light is not adequate, another is added in the same position.

STANDARD LIGHTING SETUP



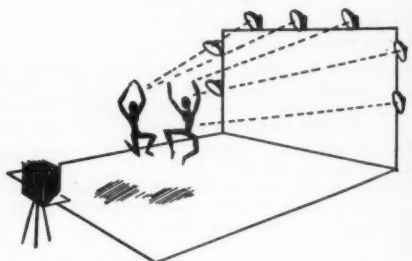
Six stroboscopic units, three front and three back are used for most of Mili's action subjects.

VARIATION OF STANDARD LIGHTING



For use when the subject is turned at an angle from the camera. Same as top arrangement except that the central front light has been moved to one side so two lights, one high and one low face the subject head on.

SILHOUETTE LIGHTING



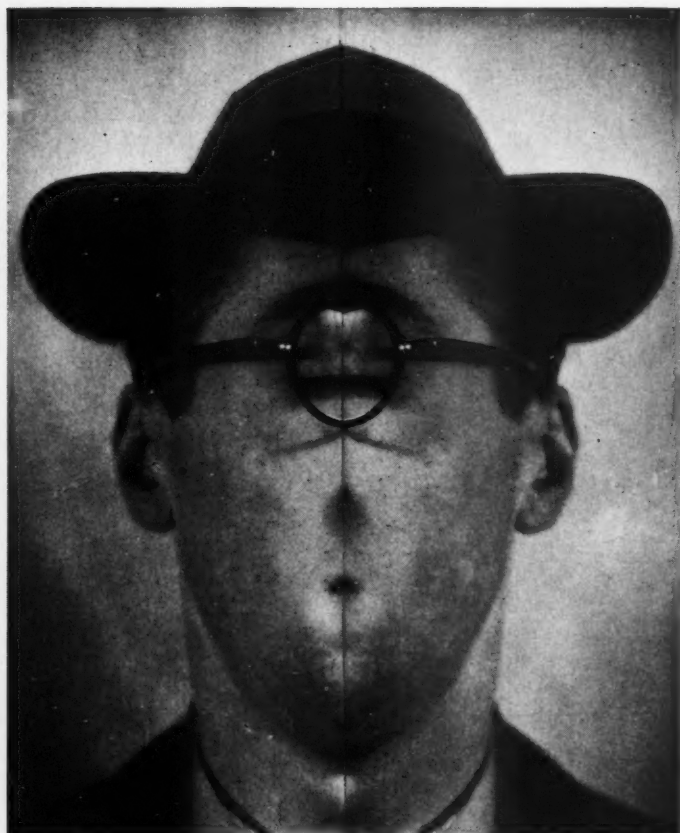
Backlighting, with all lamps placed on the background. The chief problem is avoidance of light striking the camera lens. This is the arrangement used for the shot on the inside cover showing two dancers in mid-air. (See p. 2.)



Miniature lightning—the flash of an electric spark in a gas-filled tube—stopped the action of these rope-skipping girls at $1/100,000$ of a second, $f22$. Photo from Life.



ODDITIES BEFORE



"Portrait of a Narrow-minded Man" by Jaques LeMare from Black Star. No descendant of the mythical one-eyed Cyclops is this French satire, but the product of scissor legerdemain. Two prints were made, one reversed. The prints were carefully cut so that they could be matched perfectly. The edges were bevelled by rubbing with fine sandpaper and the two parts pasted on a piece of light-weight cardboard. Photographic satire is an almost untouched field and one with unlimited potentialities worth exploring by every cameraman with imagination.

*ODDITIES BEFORE THE CAMERA pays \$5 each for photographs accepted for this department.

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Triumph of a shadow! Pictures with shadow effects and silhouettes are common enough, but here is a shot in which the shadow becomes the picture! The original subject has been trimmed until only the hands are seen. The result is not only a better portrait than ordinarily would have been obtained, but also a more unusual one. The shadow is more photographically suggestive than the man himself lost in his Bacchanalian dream. Rollei-flex 6 x 6 cm. camera, f16, 1/5 second. By N. Balkin.



Can a rainbow be photographed? This elusive and transitory subject is frequently seen but seldom captured on film. Anyone can photograph a rainbow provided he has his camera with him and ready for prompt action. The above was taken by Anthony Lanza, ace lensman of the New York Sun, one January morning while on his way to the Battery. When he saw the rainbow, he quickly opened his camera, slipped a light red filter on the lens and shot at f16, 1/300 second. Before he could take a second shot, the camera-shy apparition disappeared.

THE CAMERA



FOTO -

Fallacy: That enlarging paper is necessary for making enlargements.

PAPERS ordinarily used for contact printing such as Azo, Convira, Cyko, Veltura and Kodalure can be used for enlargements.

Theoretically, any enlarger can make a print on the slowest paper, provided a long enough exposure is given. From a practical standpoint this is not easy, as stray light fogs the paper during the minutes it must be exposed or the negative is overheated and warps or burns. To make "contact-enlarging" easy, an enlarger which throws an abundance of actinic light on the paper without overheating the negative is necessary. Condensing enlargers, when equipped with 500- or 1,000-watt, clear-bulb projection lamps, will do the job. Another practical arrangement employs highly actinic gaseous-discharge lamps (similar to neon sign tubes) which

generate little heat and thus permit long exposures without negative damage.

Just to show what can be done, the illustrations for this installment of Foto-Fallacies were printed on Azo paper with a 500-watt converging-beam enlarger, from $3\frac{1}{4} \times 4\frac{1}{4}$ negatives. Average exposure time was about 30 seconds.

Contact printing paper makes satisfactory enlargements when used with a condensing enlarger.



Fallacy: That hypo accidentally splashed into developer will ruin the film.

SUCH an accident may cause spots or streaks, but the result is not necessarily fatal. As a matter of fact, hypo may be used in developer deliberately.

Often, by adding hypo solution to a developer used in making prints, interesting

tones and contrast effects can be obtained. There are also special developers which develop and fix in a single operation.

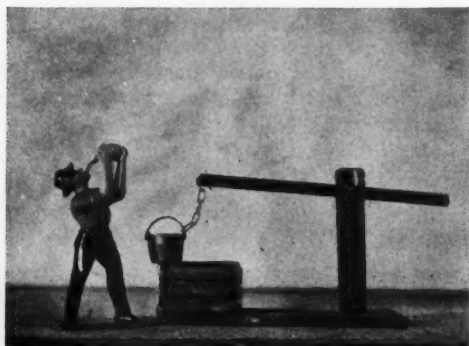
If you like to experiment, you might try the following formula for developing and fixing in the same solution:

ONE-SHOT DEVELOPER

Water	16 oz.
Acetone	$1\frac{1}{4}$ oz.
Amidol	40 grains
Sodium sulphite	225 grains
Hypo	350 grains

The negative should be somewhat over-exposed. Development and fixation should be

The quality of this print (enlargement) made on Azo No. 1 contact paper is equal to that of enlargements made on ordinary enlarging papers. Complete in about seven minutes, at 70° F. Leave the negative in the solu-



FALLACIES

tion until hypo has cleared it. There is no danger of over-developing.

The disadvantages of using a combina-



Hypo accidentally splashed into the developer may cause spots or streaks on the print being developed, but in small quantities it will not spoil the developer.

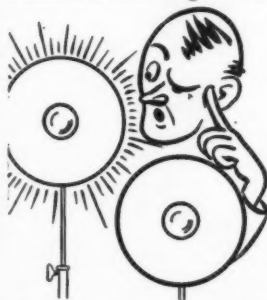
tion developer-fixer are that it reduces the effective speed of the film used about one half and removes the chance to lengthen or shorten development.

All this should not be construed to encourage anyone to make a practice of splashing hypo in developer when processing either film or paper. Cleanliness in darkroom work is an important prerequisite for consistently good results.

The action of physical development is described by "Little Joe Silver" on page 46.

Fallacy: That a high polish is better than a dull one for reflectors.

OFTEN the exact opposite is true. For example, when making portraits where a diffused light is desirable, a "dull"



A dull surfaced reflector will soften and diffuse light producing more uniform illumination.

eral, for photo-flood lamps, photo-flash lamps and ordinary incandescent lamps, use a dull or matte surface reflector when an even, soft light distribution is desired and use a highly polished reflector to concentrate light into a small area and produce more contrasty effects.

A "dull" or matte surface reflector does not mean one that is inefficient in light-reflecting ability, but one that scatters light uniformly from its surface. Some diffusing reflectors are more efficient than some polished ones.

or matte surfaced reflector usually is preferable to a brilliantly polished one. The matte surface reflects light equally in all directions and produces uniform illumination on the subject being photographed, while a polished reflector, no matter what its shape, has a directional effect.

Often a polished reflector shows a distinct "hot-spot" of light that is difficult to control. In gen-

Brilliantly polished reflectors can be toned down by painting them with a dull-finish white lacquer or water-mixed casein paint.



MUSIC FOR THE STARS

Portrait Lighting Hollywood-Style

BY GENE KORNMANN

HAVE you ever wondered why music has become such a definite part of all our motion pictures? There is a very obvious relation between music and photography. Nearly everyone has some appreciation of music. Part of the equipment in our studio is a phonograph and radio. Many stars, when they come to the gallery, bring their own records, and I cannot tell you how many times the harmony of the music has supplied the necessary atmosphere for both the subject and myself.

Many times, it seems to me that portraits take unto themselves the rhythm, harmony, and balance of the music played during the sitting.

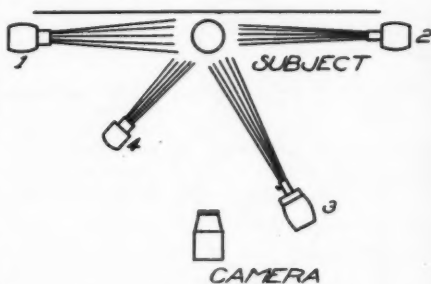
After light-pattern and composition are arranged, it is a question of keeping the subject's interest until the exposure is made. Here, again, music and conversation often fill a gap which would otherwise allow a subject to get out of control.

The next time you make a portrait which lacks personality, analyze it in terms of the apparent frame of mind of your subject. I do this frequently and find that the error was mine—not the subject's or the lights'.

Not that the lighting is unimportant. I start by first providing the general illumination and then "painting in" with side, back, or cross-lights—weighing the balance of light and shadow. Unobtrusively, I change the position, direction, or focus of my lights—generally with bulb in hand, ready to take full advantage of the opportunity to catch the smile or expression which I am after.

It is, of course, not necessary to use the identical lights which I use to produce substantially the same light effects. The lens shades or "snoots," which I find so handy, may be made of heavy cardboard and adapted to almost any standard spot light.

The diffusing material (Fiberglas) may be new to many. A thin silk will produce substantially the same effect. I use this new material because, while it softens the light, it does not cut down the actinic value to the same extent as most diffusing materials. The flesh-tone gelatin diffusing material may be purchased at any theatrical supply house.



LIGHT No. 1: Baby Keg-Lite; 500-watt; six feet from subject; seven feet high; Fiberglas diffuser.

LIGHT No. 2: This is the light which highlights the hair. Baby Keg-Lite; 500-watt; six feet from subject; seven feet high; equipped with No. 2 snoot; no diffusion.

LIGHT No. 3: Baby Keg-Lite; 750-watt; equipped with Foco Spot Attachment; six feet from subject; below subject's face to obtain silhouette shadow.

LIGHT No. 4. Dinky Inkie Spot Light; 100-watt; four feet from subject; three feet high; Fiberglas diffuser.

This is the fill-in light used on the left side of the face for proper shadow balance.



Linda Darnell, whose likeness is currently the favorite of newspaper and magazine picture editors as photographed by Gene Kornmann. For lighting diagram, see previous page.

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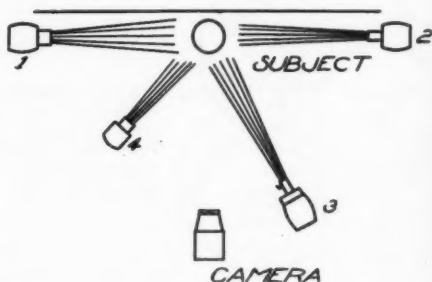
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THE STORY BEHIND THE PICTURE

By DR. STEPHEN WHITE—ILLUSTRATED BY THE AUTHOR

NOT only is there a story behind this picture but one of the most memorable experiences of my life is connected with it. In August, 1939, I packed my bag and, in spite of gathering war clouds, boarded a steamer for Europe. I had received friendly advice to go, for "there surely won't be a war," and warnings that to go would be scarcely short of foolhardy. I went—and arrived in Europe on September 3rd, the day war broke out. Fortunately, as I realized later, the wheel of fortune placed me in Naples, Italy.

Full war-time routine was established and restrictions were imposed, especially upon travellers. All private automobiles were banned, the nights were dark except for eerie scattered blue lights, and trucks filled with troops rumbled down the boulevards in the frenzied haste of mobilization. Passports were demanded and inspected at the turn of every corner. The situation and outlook were far from pleasant.

I was scampering from one steamship office to the next, inquiring about accommodations on tramp steamers and cattle boats—anything to get home—when the Italian Line announced the resumption of steamer service to the United States. Then followed anxious days of waiting for the assignment of space and finally one day, feeling a warm glow all over, I left the steamship office with a return ticket in my pocket. This was a Thursday morning. The S. S. Rex was scheduled to sail on Saturday. I had one free day and immediately my mind turned to pictures.

A government official was stopping at the hotel and when I met him in the bar, I asked about the possibilities of picture taking. He assured me that if I stayed away from naval bases and military areas I could take all the pictures I wanted. Cheered, I made arrangements for an excursion to the Amalfi Coast. The following morning I waited for my taxi in the doorway of the hotel which faced the broad waterfront boulevard known as the Via Partenope. Opposite was a memorial monument. There had been a heavy shower a short time before and the street was glistening. Off in the distance, behind the monument and towards the slopes of Vesuvius, dark clouds were breaking. I made an exposure with my Super Ikonta B (See Page 34). As I gazed at the scene I realized that something more was needed in the left hand portion of the scene. I had not long to wait when a horse-drawn coach came clattering along, and, with camera poised, I snapped again when the horse and carriage reached a pre-determined point.

I would have taken a few more shots of the Via Partenope, but my taxi and guide arrived and we were off to the country. It was lovely—enhanced

WAR DOESN'T STOP PICTURE-TAKING



Via Partenope, Naples, taken on Sept. 3, the day before World War II broke out.

by magnificent cloud formations overhead and the enchantment and pictorial glamor of the Old World.

The first—and last—stop was at Maiori, a small fishing village on the coast. I got out, stretched my legs and looked around with deep satisfaction at the rugged short-line with its bathers and fishing boats drawn up on the sand. In the village were narrow, crooked streets and picturesque folk engaged in their daily pursuits. Beyond, on a crag, was an old stone castle, its towers extending into the clouds. I walked along with my guide blissfully snapping pictures, until suddenly an officer with a dazzling red, white and gold uniform approached and announced himself the local Commandant of the Carabinieri,

the Royal Police force. He was backed by a gathering crowd of curious villagers.

I was under arrest! Despite my passport and the explanations, pleading, and the violent gestures of my guide, all my cameras and accessories were confiscated. Then followed endless questions and head-to-toe inspection. Not speaking Italian, I had no choice but to remain mute while my guide wore himself out with frenzied pleadings. They confiscated my films in order to develop and inspect them. I was 50 miles from Naples and I was not permitted to communicate with the American Consul or to telephone friends. Dread thoughts crept into my mind. Would the ship sail tomorrow without me?

I sat and smoked cigarettes at the rate

of one every two minutes. Two o'clock, the time when the films were to be developed and returned, came, but not the Commandant. Three o'clock, and no sign of activity. I ventured a meek inquiry. "The Commandant, he will return soon?" The guard smiled and indicated that His Excellency was making rounds in the village but would be back soon. Four o'clock! The skies suddenly darkened and then exploded with one of the most violent electric storms I had ever seen. Through the cell windows I watched this most appropriate background for the drama through which I was living.

About five o'clock, the Commandant emerged from one of the doors down the corridor. He was in informal uniform. As he passed my cell he was yawning and stretching. *He had been asleep the entire afternoon!* I lived a thousand years and died a thousand deaths, while he was taking a quiet siesta!

I was taken into his office. First, he busied himself with routine matters and assignments. Finally he picked up the rolls of developed film and held them to the light. With large shears he clipped out frame after frame. Many were scenes which could be found on picture postcards, for sale everywhere. Then he took my cameras from a locker and returned them to me with a few of the negatives.

The Commandant stood up, gave the Fascist salute and explained to my guide, who had been faithfully standing by with my taxi driver, that everything which had been done was in the line of duty and he hoped that I would understand.

The next day I sailed for home on the Rex and never have I seen such a pleasant sight as the Statue of Liberty in New York harbor on a bright morning.

When I looked over the few negatives which had escaped the Italian censorship, I found one of Via Partenope which had been made at the beginning of that eventful Black Friday. As the film had been developed by the police photographer, I have no idea what formula was used. My best guess would be that it was developed in Italian coffee! It is the densest negative I have ever seen and probably has a gamma of about 12!

Since the negative was too dense for direct enlargement, and I wanted to re-create the misty atmospheric conditions which had prevailed after the shower, I decided to make a paper negative. A 5x7 transparency was first made, using Defender Commercial film. This was deliberately over-exposed and under-developed in a 4 to 1 M. Q. solution (D 72) with a marked increase in the tone scale. Dust and scratches were eliminated in this transparency. (Page 103, please)



The first of the two negatives exposed on that eventful Black Friday. Compare with the salon print on the previous page. Note the improvement in composition made by the addition of the horse and carriage and the re-creation of the misty atmosphere by means of the paper negative method.

Searchlight Aids Focusing

By WALTER E. BURTON

A CAMERA equipped with a range-finder is easy to focus in poor light or darkness with the aid of the "searchlight" attachment illustrated. When making synchronized photoflash shots, the arrangement is particularly useful.

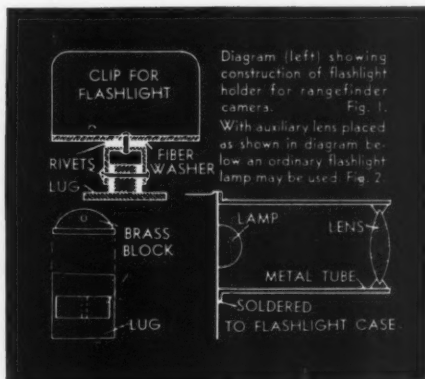
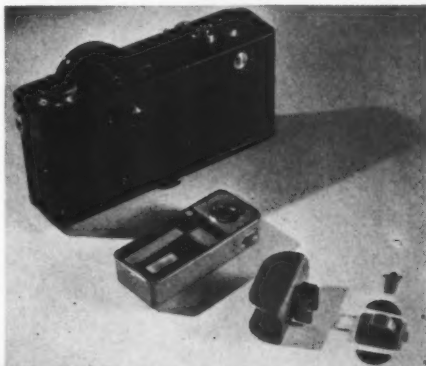
The searchlight is nothing more than a small two-cell flashlight equipped with a "lens lamp," and mounted in such a way that it can be aimed where its spot will be visible in the rangefinder and viewfinder. The flashlight shown measures about $\frac{3}{4} \times 1\frac{1}{4} \times 2\frac{3}{4}$ ", and uses two fountain pen type cells. It costs about 35 cents. The lens lamp (made by manufacturers of Mazda lamps) looks like a solid glass marble nearly $\frac{1}{2}$ " in diameter, with the filament at the back.

The attachment fits the accessory clips provided on top of miniature or other cameras, or it can be built to fasten to a tripod screw socket. The lug that enters the clip is made from brass $\frac{1}{16}$ " thick and measures $\frac{3}{4}$ " long and $\frac{3}{4}$ " wide at the rear. It is slightly narrower at the front end, so it will slide into the clip easily. To it is soldered a brass block $\frac{3}{16}$ " high, $\frac{1}{4}$ " wide and about $\frac{5}{8}$ " long. This can be rectangular, or curved on top as shown.

A strip of stiff sheet metal $\frac{5}{8}$ " wide and bent in the form of an inverted U is riveted to the block, with fiber spacers between to provide friction when the U-shaped piece is tilted forward or back. From a piece of sheet brass measuring about $1\frac{1}{8} \times 2\frac{1}{2}$ ", the trough-shaped clip for gripping the flashlight is made. Through a hole in the bottom of this piece, and the top of the U-shaped piece, is a brass rivet that acts as a pivot for horizontal adjustment. A piece of fiber between the two metal (Page 88, please)

The attachment ready for assembly (top). Fig. 3.

Ready for use. The lens lamp throws a spot of light on the subject making focusing easy. Fig. 4.





Silhouettes are the easiest of night subjects. Exposure is not critical, and there is more danger of under than over exposure. Ideal B camera, $3\frac{1}{2} \times 4\frac{3}{4}$ inches, 6-inch lens. Taken on Agfa Superpan Press, $f/8$, $1\frac{1}{2}$ minutes. Developed in Agfa 17. Print an Illustrator's Special. Title, "Brooklyn Bridge."

NIGHT TIME

By **STANLEY RAYFIELD**

Illustrated by the Author

IS PICTURE TIME

Let your camera out after dark and it will see a new world as fascinating as a trip to foreign parts

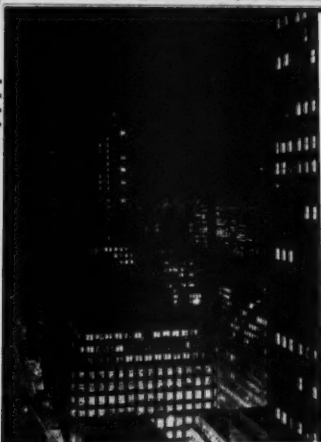
MAYBE you have shot enough film to stretch from Brooklyn Bridge to the Golden Gate with never a single picture taken outdoors at night. Yet night photography demands no special equipment, knowledge or experience. In some cases, a Box Brownie will do as well as a Super-super outfit with synchronized multiple flash and everything built in but hot and cold running water.

In the city, uninteresting day subjects by night may display a fairyland of light and shadow patterns. Let's take with us: camera (any type), tripod (the heavier the better), fast pan film, lens shade and cable release (both indispensable), pocket flashlight, a small square of cardboard, and perhaps a black focusing cloth.

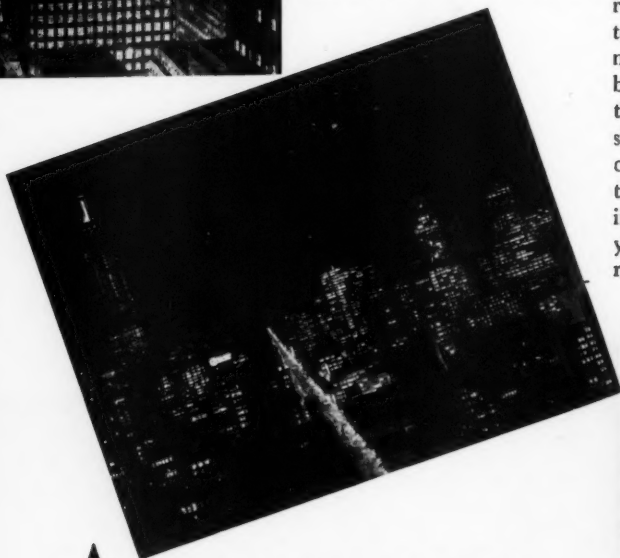
What do we see as we look around? Dark masses of shadow, pools of light,

"Waiting for the train." Mist diffuses harsh station lights and clothes this scene in a gentle atmospheric halo. Superpan Press film, 1 minute at f3.5.





← Pattern study among the sky scrapers created by light shapes of illuminated windows and shadow patterns of dark roofs. The arresting frame for the central subject emphasizes the feeling of height. Superpan Press. 30 seconds at f5.6.



↑ Note how groups of lights at right balance the overwhelming Empire State tower. The street cutting through the picture is New York's Sixth Avenue. Streets are usually desirable in this type of picture as they lead the eye into and through blocks of lighted windows, but in this case the effect is to cut the picture almost in two separate halves. However, not much manoeuvring can be done on a narrow terrace 31 floors above the street; 20 seconds at f3.5 on Agfa Superpan Press.



→ Tiny squares of lighted windows, dark roofs and patterns of massive architecture create a night pattern study of New York City skyscrapers. Exposure: 30 seconds at f5.6 on Agfa Superpan Press.



→ The same subject as seen at the top of the page, taken after flood lights illuminated the buildings used as a frame. Note the light circle in the sky caused by stray light striking the camera lens.

"New York Nocturne" illustrates the type of strong, dramatic pattern that creates prize winning salon prints. 1 minute at f8, Agfa Superpan Press.

The World's Fair Dutch Village. Super Ikonta B, camera, 2 1/4 x 2 1/4, one second at f2.8 on Agfa Finopan.



dominant center of interest. That's the whole story of my picture "New York Nocturne", (see above) a consistent salon winner. Block out the strong line of Fifth Avenue and there is little left. So look for strong, dramatic patterns, and you'll be rewarded with stunning night shots.

First of all, remember to:

1. Keep nearby naked lights out of the lens.
2. Use a lens hood at all times.
3. Use a cable release unless you can hold the shutter open with a finger for five minutes without getting tired or wobbling the camera.
4. Use a square of cardboard to cover the lens when a car's headlights approach the picture. You may have to do this a dozen times, but you won't have to open

"Arabesque." Design and pattern in night photography. The Empire State Building was more than a mile away from the ivy covered window. The camera could be back only 6 feet from the window, and even with the lens stopped down to f22 the Empire State tower was still a little out of focus, but this only added to the illusion of distance. Superpan Press film, f22, 5-minute exposure.



For night shots, use a fast panchromatic film such as Agfa Superpan Supreme, Ultraspeed, Superpan Press, Eastman Super XX or Plus X. This bridge picture was exposed 1 minute at f8.

and close the shutter all the time, thereby risking camera jar.

5. Bring along a pocket flashlight for checking camera settings, focus, etc.

6. During exposure, stand on the side of the camera that needs protection from stray light or wind.

7. Bring a tripod and tilting head. In many cases, a tripod may be dispensed with by resting the camera on a firm support such as a floor, rail, bench, etc., but wherever possible, use a tripod.

Now try some of these setups:

Streetlights. Group a couple of friends casually under a streetlight with an interesting background. After rain or snow, you will get wonderful reflection effects, too. Call the picture "Rendezvous" and it will sound like a salon success.

Silhouettes. Shoot a simple pattern of lights through the near limbs of a leafless tree. I did it, called the picture "Nocturne" (it was shot in Central Park, New York), and have had it hung often (page 39). Called "Silent Night", it was my last year's Christmas card. Dozens of shapes will serve as silhouettes with the use of a little ingenuity. Place a friend's head or body near the lens; human interest is just as important in night as in day pictures. Note how "Brooklyn Bridge" (page 36) is helped by the introduction of a human figure. Incidentally, it won a \$50 prize in a contest run by "The Sketch", an English magazine.

Shadow and Light Shapes. Often fantastic and weird at night, they may be found in narrow alleys and streets, underpasses and flights of steps—



wherever confined spaces and sharp angled turns distort them.

Reflections. After rain, wet streets take on great photographic beauty. Many a night shot tells its story entirely by means of them.

Mist and fog. Mist diffuses light, giving a charming halo effect. In "Waiting for the Train" (page 37), mist adds perspective to the scene, clothes the station lights in halos and conveys the atmosphere of a winter night. Note, too, the effectiveness of the human figures and the pattern effect of the lights. (A camera doesn't like this type of weather, so dry it inside and out when you get home. Keep the lens clean with lens tissue.)

Elevation. Rooftops give plenty of interesting angles when combined with lighted windows, but in this profusion of material work out a good pattern, using



a bright street or something dominant on which to hang the general effect.

What About Exposure? An exposure meter will rarely do you any good, but exposure is easy. As in daytime scenes, expose to get detail in the shadows where you can see any. For a general scene with no near bright lights, stop down to *f*/8 and make a series of exposures at, say, 1/2, 1,

2, 4 and 8 minutes. One of these will be correct. After a few attempts, experience will enable you to narrow this range and give you a swell working guide for dozens of other night shots. Remember that light decreases very rapidly in photographic effectiveness as you get away from it, so err on the generous side in exposure.

Here is my exposure table for night work based on the use of Agfa Superpan Press, Ultraspeed, or Eastman Super XX film at *f*/8. You would probably get a printable negative at somewhat shorter exposures, but the following will give you adequate shadow detail.

City skyline with lighted windows covering 1/4 mile radius	1-3 min.
Suburban street with few lights	1/2-2 min.
Misty night, wet city streets	3-9 min.
Snow scenes in city streets	1-5 min.
Exterior of suburban house	1/2-2 min.
Movie house across street; shop windows	2-10 sec.
Scenes under street lamp	5-15 sec.
Brightly illuminated city square or crossroads	V E-D sec.

With films such as Agfa Superpan Supreme or Eastman Plus-X it is necessary to double the above exposure times.

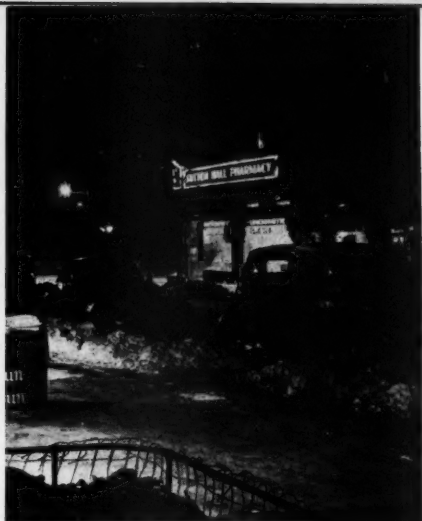
With moving figures, use speed of not longer than 1/5th second and open up to about *f*/4.5.

Developing and Printing. No fancy supersoups are required for developing night negatives. As I use mostly a Super-Ikonta B, negative size 2 1/4 x 2 1/4, Agfa 17, a soft working formula, gives adequate fine grain. It is imperative to develop for a thin negative and to agitate constantly to avoid streaky negatives. I print most night shots on a medium hard grade of paper, working from a thin, soft negative. I make test strips to select the paper grade that will produce crisp bright highlights that do not block up. Since you need a long scale, the chloride and chlorobromide papers are recommended.

It is a rare night shot that does not



Pictures taken at twilight have a feeling all their own. There is about a quarter of an hour between the end of day and the onset of night when night shots in a twilight mood are possible. The effect of night is there, but much more detail may be captured by the camera, and also a good deal of aerial perspective, which always gives the illusion of great distance. "Night Song," 20 seconds at *f*/2.8.



↑
Exposure is not critical in night shots. There is not much danger of overexposure unless strong lights are in the picture. Exposure 30 seconds at f8.

→
Snow or rain-covered streets make excellent reflecting surfaces for night scenes. A low priced camera and a slow lens can take night shots like this because the lens usually is stopped down anyway to about f8 to get depth of focus. 30 seconds at f8.



When there is no foreground closer than 50 feet from the camera advantage can be taken of the lens' full aperture. By shooting wide open, the exposure time can be kept to a minimum. Superpan Press film, 50 seconds at f8.



appear in the left margin of the picture as an overexposed blur. This taught me to keep the foreground lights out of direct view by moving the camera position until such lights become shielded by trees, walls or other protuberances.

The Discomfort of It All. Night photography is an all-year sport. Be prepared for (1) cold hands, (2) wet feet, (3) loneliness, because your friends and models are likely to say to hell with it after ten minutes posing below freezing point, (4) jammed camera shutter due to cold, (5) mist on lens due to cold and moisture, (6) possible interference from the arm of the law because your tripod is blocking the main street, (7) ribald remarks about that "nut" from shivering passers-by.

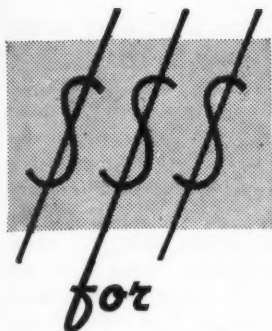


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Resting after a day of skiing this group of prominent people made a good picture for the society photographer.

SOCIETY PICTURES

By JACK WIDMER

WHEN the socially impeccable matron rises from her bed on a Sunday morning to note with harassed resignation the small pouches under her eyes, and the somewhat larger pouch in her middle, she turns hopefully to the morning paper's society section for better news.

Here is life censored to the matron's taste, showing men and women, suave, urban, and chock full of quiet worth. What a pleasant change from the down-sag view of a boudoir mirror!

It is this difference in point of view that has made the society section pictures so important to those who appear in it. And the continuing of that gentle fiction is the amateur free-lance photographer's simplest way into print. The lensman who mirrors life as we would live it calls his shots in national magazines at \$10 per and up.

Every locality presents special opportunities. Perhaps you live where yachting is the major attraction; perhaps you have a fashionable golf club within driving or walking distance; perhaps you are for-

Golfing or local magazines are interested in pictures of local and national celebrities.

Ready for a polo match this bevy of feminine enthusiasts made an ideal society shot. F8, 1/100.



fortunate enough to live in a large city that will offer all these events plus night clubs, hotels, skating rinks, etc. The society photographer will find no town too small nor city too large to supply meat for his lens.

The subjects photographed should be doing something, but take no embarrassingly "candid" shots. Don't ask Mrs. So-and-So to jump a stone wall, but show her displaying interest in what is going on around her. She will be glad to cooperate. If she's a spectator, picture her watching the event or perhaps discussing it with one of her friends. A score card in hand is a good prop. But remember, no "mugs" here, no tintypes, for they went out with the head-rest and the twenty-minute exposure.

Most editors are interested in pleasing as many people as possible within their limited space, so groups of from two to five are especially saleable. Have your subjects seated in hunting costume on a bench enjoying the morning sun after a hunt to hounds.

At a polo game, a shot of a few well-known members of the audience talking with a star player is a natural, especially

with a horse in the background to add atmosphere. At a race meeting, a picture of a group of socialites with one of the winners will please most society editors and might have a good chance with the sports editor as well. On yachting scenes, a background showing the "club" or some nautical subject is advisable; if you can get a group in sailing clothes, so much the better. Have them seated about the cockpit, a man or woman at the wheel (preferably the owner of the boat) and water in the background. Try to give the reader the illusion of being at sea, not moored to the dock. In golf pictures action on the fairway or shots of members lounging on the club veranda are especially appropriate.

A word here about names. Get the correct spelling and, in writing captions, list the names as the subjects prefer to have them. Distinguish between the A. Bertram Smiths and the Arthur B. Smiths (the secretary of the club will check your captions). You will receive a smile and more ready co-operation in a future "repeat" shot if you are particular about such details. (Page 104, please)

NATIONAL MARKETS FOR SOCIETY PICTURES

COAST, THE. 130 Bush St., San Francisco, Calif. Photos concerning Pacific Coast people. Innis Bromfield, Editor.

COUNTRY LIFE. 1270 Sixth Ave., New York City. Photographs (with or without articles) on every phase of social and sporting life. Peter Vischer, Editor.

GOLF. 52 Vanderbilt Ave., New York City. Photos of socially prominent golfers. Richard E. Lauterbach, Editor.

MAYFAIR. 481 University Ave., Toronto, Canada. Society, sports articles, Canadian interest. J. Herbert Hodgins, Editor.

RIDER AND DRIVER. 342 Madison Ave., New York City. Photos of socially prominent people taken at hunt meetings, horse shows. Samuel Walter Taylor, Editor.

RUDDER, THE. 9 Murray St., New York City. Articles or photographs, or both, of interest to yachtsmen. WM. F. CROSBY, Editor.

SPUR, THE. 515 Madison Ave. Photos of general society interest. Arthur Edwin Krows, Editor.

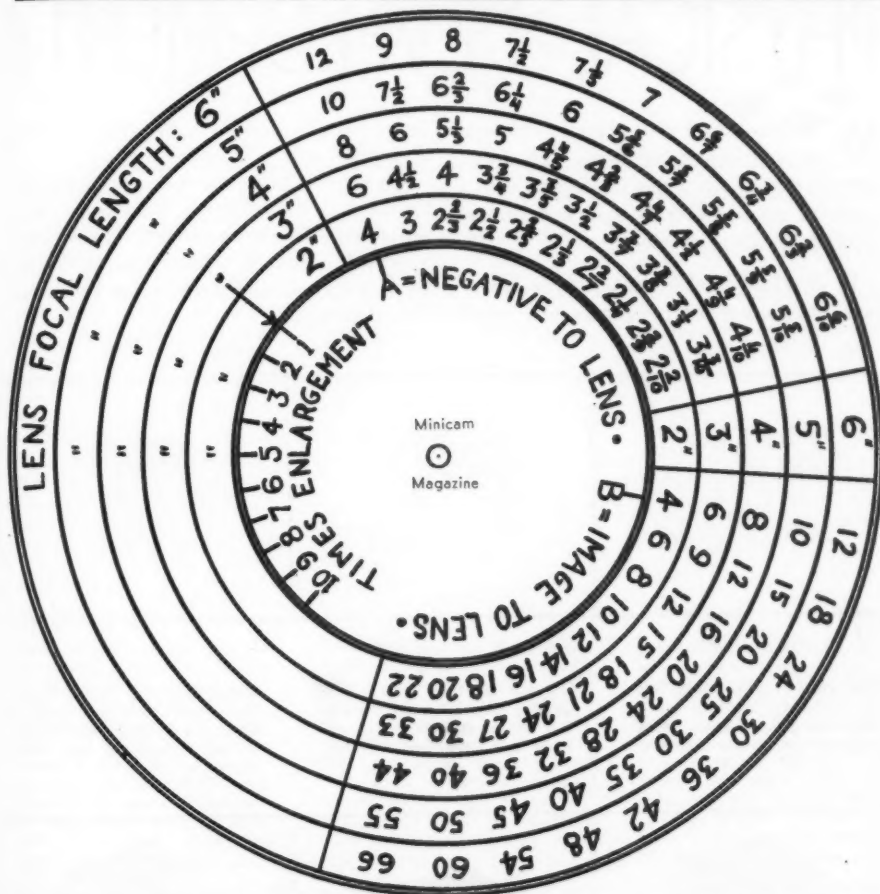
SUNSET. 576 Sacramento St., San Francisco, Calif. Photos about Pacific Coast people, taken by western photographers. Walter Doty, Editor.

TOWN AND COUNTRY. 572 Madison Ave., New York City. General society photos. Harry Bull, Editor.

THE SPORTSMAN PILOT. 515 Madison Ave., New York City. Photos and articles of interest to the society flyer. Charles H. Gale, Editor.

VOGUE. 420 Lexington Ave., New York City. Society pictures usually tied-up with travel. Edna W. Chase, Editor.

Cut-out Distance Calculator



FOR enlarging and copying work, all lens-to-negative and lens-to-image distances may be instantly derived with this handy circular calculator. To assemble, cut out and mount on cardboard, pivoting the inner circle (between the double lines) with a paper fastener.

Select, under "lens focal length," the circle for the desired size of lens, whether 2", 3", etc., and the remaining circles then may be ignored for the time being.

To use, simply set the "Lens Focal Length" arrow opposite the desired "Times Enlargement." For example, "1" time enlargement.

Then read the answers in the circle of the desired lens focal length. For example, with a two-inch lens, the "A" points to 4 inches. "B" shows the distance of image-to-lens as also 4 inches for a one-time (equal size) enlargement.

(These conjugate foci—distances from lens to negative and to image at various degrees of enlargement—also are given in tabular form on page 58.)

For making close-ups or copying with a camera, consider the object as being in the same position as the enlargement on the easel.

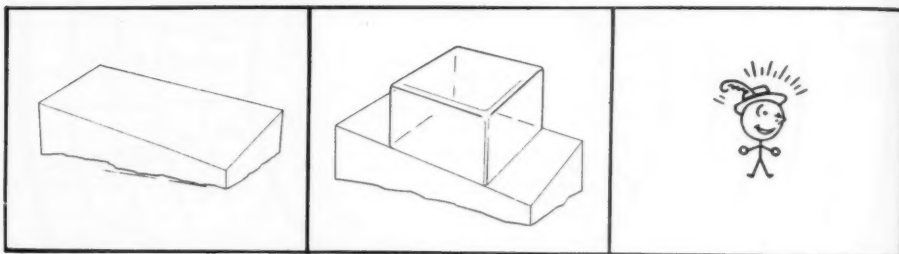
• WHAT IS PHYSICAL DEVELOPMENT?

WHEN a negative or print is immersed in developing solution, each light-struck grain of silver salt is changed into a grain of silver. This is the conventional type of chemical development.

In physical development, a weak chemical developing agent forms an initial

image on which silver is then deposited in a manner similar to silver plating.

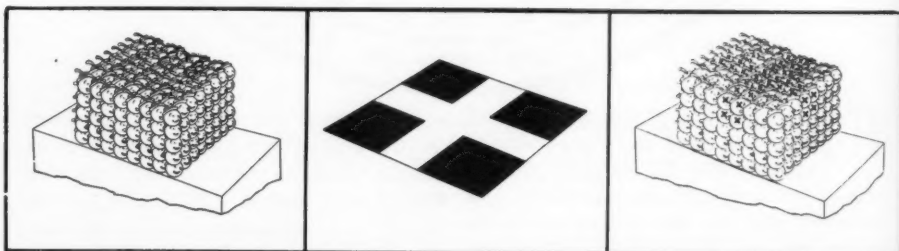
These two processes are graphically illustrated in the following imaginative version from "The Story of Little Joe Silver," a booklet issued by Harris-Seybold-Potter Co., Cleveland, manufacturers of Refracto-Grain developer.



Film consists of a base, usually cellulose acetate, but it may be glass, paper, metal, wood, or some other substance.

On top of this "base" is a coating of gelatin, like the dessert served at home, but spread in a thin layer on the film.

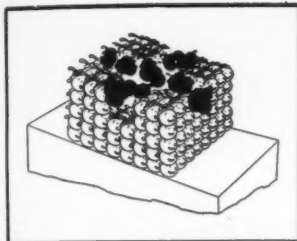
Introducing our hero, "Little Joe Silver." He is a grain of silver salt so small that it takes a microscope to see him.



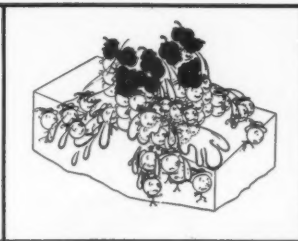
In his bed of gelatin on the surface of the base, Joe Silver slumbers peacefully in the dark along with millions of his brothers. He will "develop" into something only if a ray of light comes through the darkness and warns him to be ready. In the meantime, he sleeps.

When the shutter opens for an instant, light falls on the slumbering Joe Silvers. Part of the picture-subject is dark, part of it between shades. But to simplify the illustrations, let us suppose that the picture is a white cross on a black background, illustrated above.

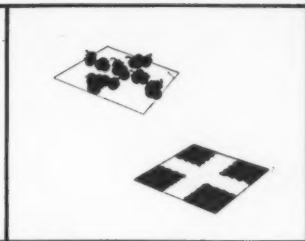
Now let's see what happens. Light from the white parts of the subject hits some of the Joes. These are marked with an X. The rest are relatively unaffected. The places where the light has struck create the latent image—the picture-to-be, waiting to be developed.



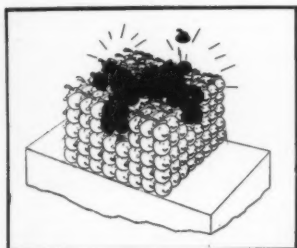
The film is placed in the developer. The Little Joe Silvers begin to wrestle around in the emulsion. Reduced to silver grains, they become friendly and throw their arms around each other. Under a microscope they would be seen forming clinker-like clumps.



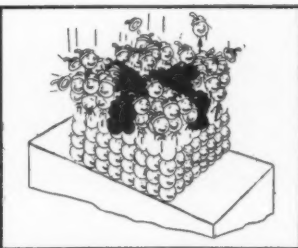
After development has continued for the desired length of time the film is rinsed and immersed in the "hypo." This fixing solution dissolves only the unexposed Little Joe Silvers and leaves the silver grains behind, forming the picture.



The resulting white cross on a black background, as it would appear in a negative and print. When a fine grain developer is not used, the clumps of Little Joes, and the spaces left between them, create graininess and fuzzy lack of definition, as indicated above.



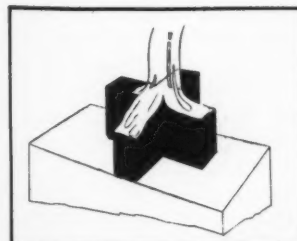
Now let's backtrack and reenact the story. The film is placed in a developing solution. Physical and chemical development begin the same way. The developing solution causes a great deal of excitement among those of the Little Joe Silvers who were exposed to light. Each grain of silver salt is changed to a tiny grain of pure metallic silver.



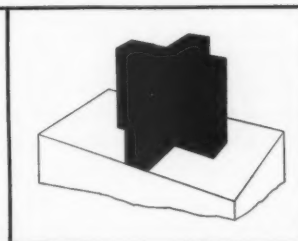
From this point on, the action of physical development differs from chemical development. In physical development, when the film is placed in the solution, the excitement is not confined to those little fellows who were lightstruck in the latent image. Many of the unexposed Joe Silvers are whisked right out of the gelatin up into the developing solution.



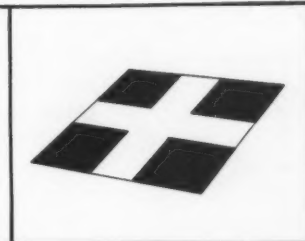
These unlucky brothers and a lot of strangers are mixed up and changed into particles of metallic silver held in a colloidal suspension. Some begin to feel lonesome and try to get back into the nice soft gelatin bed again. The only place they get a real welcome is close beside one of their lucky light-struck brothers so that is where they stay.



They are poured onto the image a grain at a time in an action similar to silver-plating.



The silver-plated Joe Silvers add to the original image, building up the negative.



From this the positive print is made — a faithful replica of the original cross on black.

• THE STORY OF JOE SILVER •

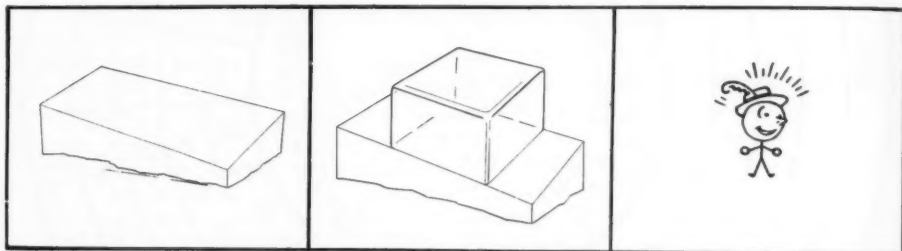
• WHAT IS PHYSICAL DEVELOPMENT?

WHEN a negative or print is immersed in developing solution, each light-struck grain of silver salt is changed into a grain of silver. This is the conventional type of chemical development.

In physical development, a weak chemical developing agent forms an initial

image on which silver is then deposited in a manner similar to silver plating.

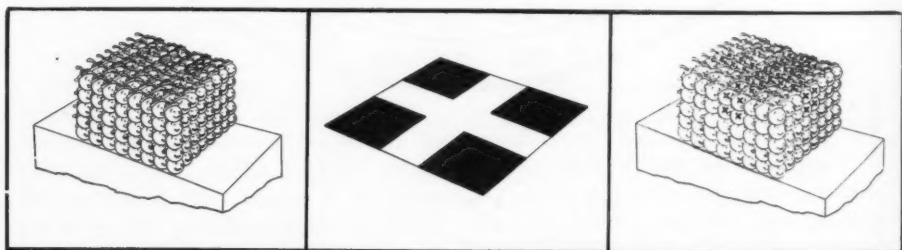
These two processes are graphically illustrated in the following imaginative version from "The Story of Little Joe Silver," a booklet issued by Harris-Seybold-Potter Co., Cleveland, manufacturers of Refracto-Grain developer.



Film consists of a base, usually cellulose acetate, but it may be glass, paper, metal, wood, or some other substance.

On top of this "base" is a coating of gelatin, like the dessert served at home, but spread in a thin layer on the film.

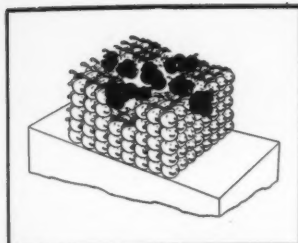
Introducing our hero, "Little Joe Silver." He is a grain of silver salt so small that it takes a microscope to see him.



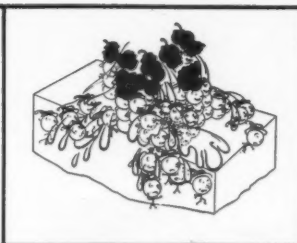
In his bed of gelatin on the surface of the base, Joe Silver slumbers peacefully in the dark along with millions of his brothers. He will "develop" into something only if a ray of light comes through the darkness and warns him to be ready. In the meantime, he sleeps.

When the shutter opens for an instant, light falls on the slumbering Joe Silvers. Part of the picture-subject is dark, part of it between shades. But to simplify the illustrations, let us suppose that the picture is a white cross on a black background, illustrated above.

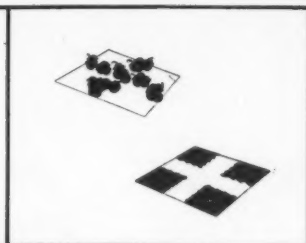
Now let's see what happens. Light from the white parts of the subject hits some of the Joes. These are marked with an X. The rest are relatively unaffected. The places where the light has struck create the latent image—the picture-to-be, waiting to be developed.



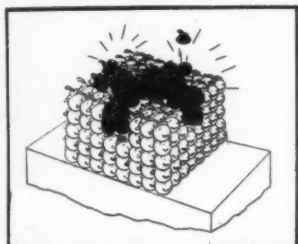
The film is placed in the developer. The Little Joe Silvers begin to wrestle around in the emulsion. Reduced to silver grains, they become friendly and throw their arms around each other. Under a microscope they would be seen forming clinker-like clumps.



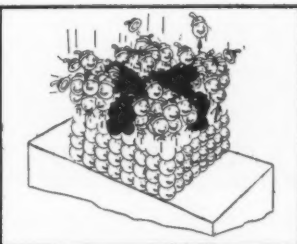
After development has continued for the desired length of time the film is rinsed and immersed in the "hypo." This fixing solution dissolves only the unexposed Little Joe Silvers and leaves the silver grains behind, forming the picture.



The resulting white cross on a black background, as it would appear in a negative and print. When a fine grain developer is not used, the clumps of Little Joes, and the spaces left between them, create graininess and fuzzy lack of definition, as indicated above.



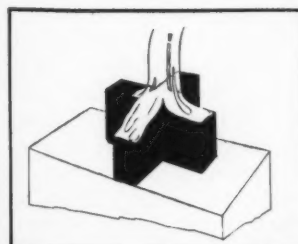
Now let's backtrack and reenact the story. The film is placed in a developing solution. Physical and chemical development begin the same way. The developing solution causes a great deal of excitement among those of the Little Joe Silvers who were exposed to light. Each grain of silver salt is changed to a tiny grain of pure metallic silver.



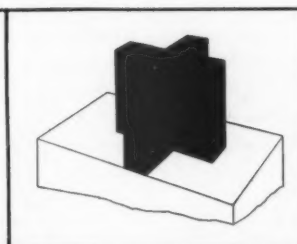
From this point on, the action of physical development differs from chemical development. In physical development, when the film is placed in the solution, the excitement is not confined to those little fellows who were lightstruck in the latent image. Many of the unexposed Joe Silvers are whisked right out of the gelatin up into the developing solution.



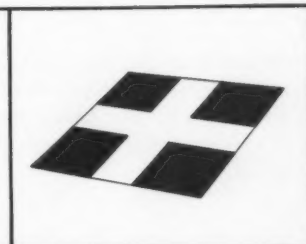
These unlucky brothers and a lot of strangers are mixed up and changed into particles of metallic silver held in a colloidal suspension. Some begin to feel lonesome and try to get back into the nice soft gelatin bed again. The only place they get a real welcome is close beside one of their lucky light-struck brothers so that is where they stay.



They are poured onto the image a grain at a time in an action similar to silver-plating.



The silver-plated Joe Silvers add to the original image, building up the negative.



From this the positive print is made — a faithful replica of the original cross on black.

• THE STORY OF JOE SILVER •



CARRY A CAMERA AT ALL TIMES. On ship-board I found it is especially necessary to keep a camera handy. Passing vessels, such as the full-rigged ship "Seven Seas" (above), won't stop to pose. Cloud formations also pass so quickly that it is seldom possible to dive down to a stateroom for the camera and return in time. On sunny days at sea, pictures of this type have a tremendous brightness range, which is rendered most satisfactorily on the long-scale panchromatic films. SS Pan, dark yellow filter, f6.3, 1/200 second.

WAIT FOR HUMAN INTEREST. (Facing page.) In Guatemala I learned it is a good idea to select a viewpoint, decide what exposure to use and then wait patiently for human figures or animals to move into the scene, completing the composition and adding "life." To make "Beneath Volcanic Skies," I waited an hour for a native to venture down the trail and take the path that would silhouette her figure against the white square of sunlight on the adobe wall. The tree shadow in the lower left balances the distant cloud-wreathed volcano. SS Pan film, yellow filter, f11, 1/100 second.

"**SEE the Americas First,**" is a good slogan and these pictures show some of the picture potentialities south of the Rio Grande. Not that it is necessary to seek far-flung and exotic ports. Whether vacationing afar or spending an afternoon in the local park, the elements of photography are the same. Here are a few of the 2,000 pictures I took in Latin America and what they taught me about how to take better pictures at home. By studying the comments which follow, it can be seen that each picture has a moral and a photographic lesson of its own.

By HENRY CLAY GIPSON
Illustrated by the Author

What travel in the tropics **TAUGHT ME ABOUT PHOTOGRAPHY**

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MEDIUM SHUTTER SPEEDS SHOW ACTION. In Mexico I learned that very fast shutter speeds are not always desirable in action scenes. To capture the spirit of movement in the bull ring, I chose a shutter speed fast enough to freeze the motion of the body of man and animal but slow enough to permit slight blurring in arms or legs. SS Pan film, *f*11, 1/100 second.



POSING TRICKS. In Ecuador I learned the art of posing pictures without the subjects knowing it. To balance the waterfall cascading out of the mountain-side on the right in this picture, the walking figures were needed on the left side of the road. Natives coming up the road insisted on keeping to the right, so I caused half of the road to be blocked with a large cart. The natives then automatically veered to the desired side of the road. SS Pan film, *f*11, 1/100 second.

LIGHT FISH FROM ABOVE. In Bermuda I found that for a natural effect on fish in an aquarium, the light source should be above the tank. It should not be beside the camera or in front of the tank window. If no artificial light is available, with until noon and the tanks get the full benefit of sunlight. Super XX film, f2, 1/50 second.



SILHOUETTES MAKE FINE FRAMES. On the island I learned also to frame pictures with silhouettes of trees or other dark masses. If no "framing" subjects are available, it is easy to superimpose them in the dark room using negatives made specially for this purpose. This sunset picture was printed normally, then the tree negative on which the background detail had been painted out with opaque was projected in its proper place on the paper. Plan double-printings carefully so that the scale and details of the two pictures are appropriate.



USE A RED FILTER FOR SNOW. I made this picture in Chile using a light yellow filter and also with a red filter. The latter showed the snow and the mountain most effectively, producing a dramatic dark sky. With the red filter, the exposure was 1/25 second at $f/6.3$ on SS Pan film.



FOR A NEW ANGLE, SHOOT STRAIGHT UP. Junglelands are often confusing in horizontal perspective. In Brazil I learned to point the camera toward the sky when making shots of palm trees. Summer weather offers many unusual compositions against the sky. SS Pan film, $f/8$, 1/90 second.



LOOK FOR SUBJECT INTEREST. In Costa Rica, I discovered that subject interest can be more important than pictorial quality in a picture. This is technically a poor picture, yet the fact that the woman wears a gourd for a hat makes it curious and interesting. SS Pan film, $f/8$, 1/200 second.



SHOOT FROM THE LINER DECK. In Colombia, I found one of the best places to get pictures in tropical ports is from the ship's deck. Life swarms around the ship offering a thousand chances for pictures. The native boatman shown was hired for 25 cents for a morning of picture-taking. Verichrome film, $f/8$, 1/100 second.

**PHOTOGRAPH
FROM HIGH
POINTS.**

In Nicaragua I learned that one of the first things to do in any foreign city is to climb the highest church dome or steeple and survey the countryside, and perhaps even take a panoramic view of pictorial merit while figuring out the most likely places to visit

for other views. If you do this, you will often discover interesting and unusual architectural and landscape subjects for photographs that might have escaped your notice in a strange country if you first went seeking them afoot. It also enables a stranger to find his way more easily from place to place after he does set out to get his pictures. This picture (above) was taken at $f/8$, $1/200$ second, on SS Pan film. It shows the interesting patio construction of Latin American cities.



GET CLOSE-UPS. I learned that simple animal and bird portraits (lower left) pack more punch than many a scenic composition, but they must show the texture of fur or feathers. Surface appearance is one of the beauties of nature. In taking this picture called "His Majesty" I learned the value of the axiom "come a little closer." Verichrome, $f/6.3$, $1/50$ second. Printed on Agfa Brovira glossy.



TAKE CHILDREN CANDIDLY. In Salvador I learned to capitalize on the universal appeal of children. The expressions of these youngsters (below right) depict the characteristic attitude of simple people toward "civilized" visitors. The youngest child shows amazement, the center child, doubt, and the nearest child expresses aloofness and desire to be unmolested. SS Pan film, $f/8$, $1/50$ second.





PICTURES THROUGH THE PLANE WINDOW. In the air I learned that technically good pictures could be made through the windows of passenger planes (left), if the camera lens were held close to the glass but just out of contact to avoid the vibration in the frame of the plane. Exposures as low as 1/50th of a second can be made from high altitudes. A lens shade is not practical since it keeps the lens too far from the glass. Above Inca Lake, Chile. SS Pan film, f11, 1/200th second.

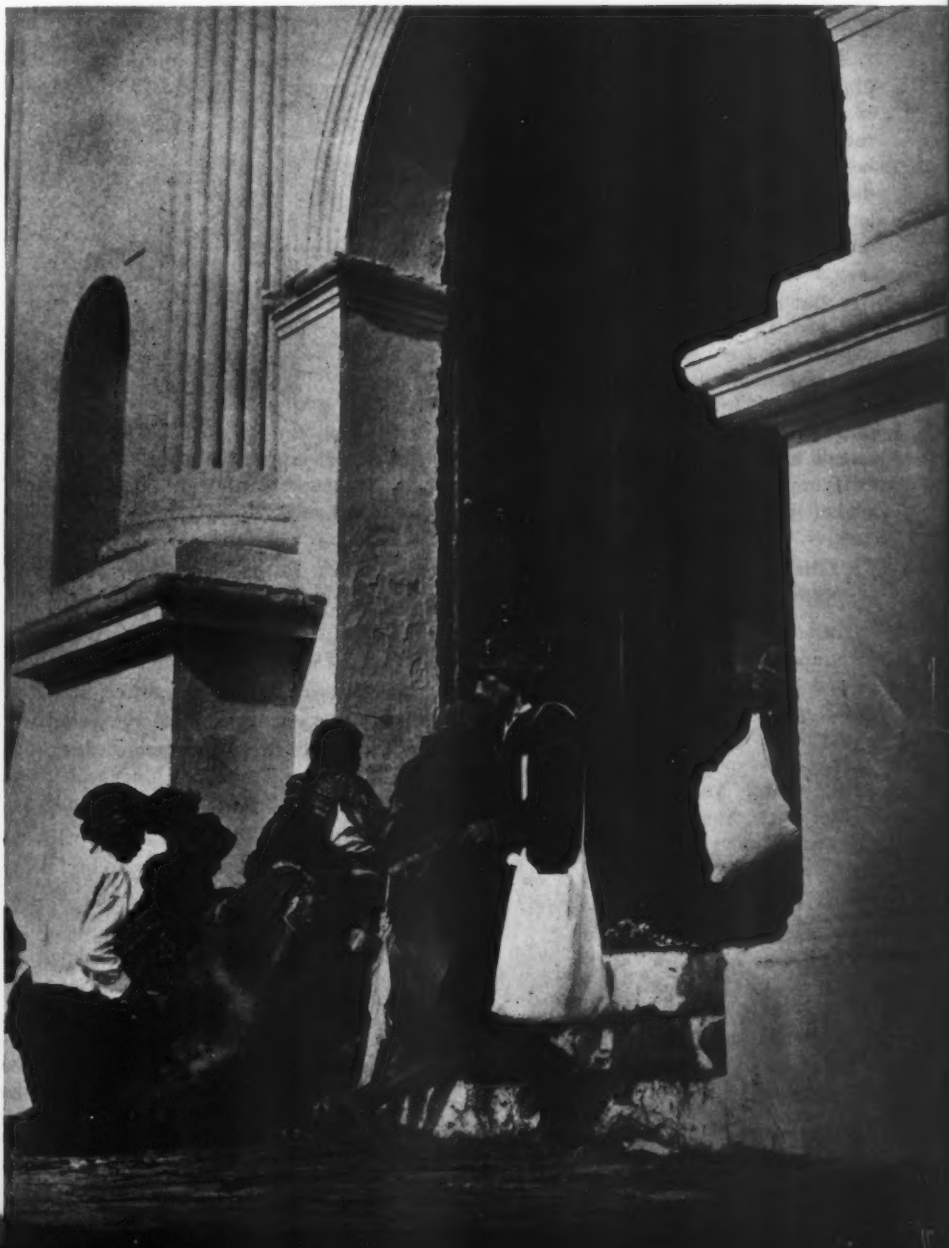
MAKE TRAVEL PICTURES APPEALING. In Cuba I found that a pretty model adds much to a so-so scene. If the model's portrait is most important the scenic setting should be "played down." An easy way to lift a shot out of the "just another picture" class is to inject sex-appeal into it. But like all potent brews, this appeal should be used with moderation. The power of suggestion is all important. SS Pan film, f11, 1/200 second.



FLASH SHOTS SYNCHRONIZED BL HAND. In Panama I learned that action photoflash pictures (right) can be made even without a synchronizer. For this picture the shutter speed was set at 1/2 second, f11. I have taken pictures in this manner with the shutter set as fast as 1/5th, but for consistently safe results, and when the lights are dim enough, it is best to set the shutter at 1 second, to allow plenty of time for flashing the lamp during the interval that the shutter is open. SS Pan film, f11.



TAKE ADVANTAGE OF CEREMONIES AND CELEBRATIONS. In shooting this scene of praying natives and swinging incense censers, I learned how to feign disinterest. The Guatemalans are very camera shy. I approached with camera concealed, exposure and distance having been set in advance at 1/100, f8, Out of the corner of one eye, I watched until the figures were in proper position and then swung around while raising the camera. This church in Chichicastenango is one of the most photogenic centers in the Western hemisphere.



"QUESTIONS THEY ASK ME"

Answering Beginners' Problems

? Question: What is a candid camera?

Answer: Any camera which can take photographs of people or animals unawares is a "candid" camera. As a rule, such cameras are small, so that they may be carried and used unobtrusively. But the big bertha camera with a telephoto lens with which a news photographer may take unposed photographs of someone several hundred yards away is, in this sense, a candid camera.

Since the subject of an unposed or candid picture is often in motion, a candid camera has a fairly fast shutter. A speed of 1/100 of a second is minimum, while many candid cameras have speeds to 1/500 and faster.

If unposed pictures are to be made at night under artificial light, in bad

weather, indoors and outdoors, a fast lens is required. An $f/4.5$ is the slowest



lens which can be used for candid work; $f/3.5$ is the largest aperture in many candid cameras, although cameras have apertures as large as $f/1.5$.

? Question: How can I tell whether a picture is underexposed or overexposed?

Answer: You can't tell from the print. Examine the negative before a light. It is underexposed if it is very pale, with no detail in the light parts of the image, and scarcely any in the darker parts.

It is overexposed if the negative is very dark, so that you can see detail in the lighter parts, but can only make it out in the darker parts with the help of a strong light.



In a negative, white objects appear dark. A snow scene taken on a bright day will yield a dark negative, but if it has been correctly exposed the detail will be clearly discernible when the negative is held to the light.

Black objects appear light in the negative; an absolutely black subject with no highlights produces a transparent image. Thus, negatives of night scenes appear thin when correctly exposed.

Learn to distinguish the blackness of overexposure from the blackness of overdevelopment. When a film is correctly exposed but *overdeveloped*, the negative shadow areas will remain light no matter how black light-colored objects may appear. In *overexposure*, the whole negative is dark gray and difficult to see through.

? Question: How can I get sharp pictures of the baby when he won't remain still?

Answer: By working in good light with fast films at high shutter speeds, and by keeping the child interested and occupied.

For child photography in good sunlight, a Superpan Press or Super-XX film at one of the following settings will produce good results:

$f/8$, $1/100$ of a second.

$f/5.6$, $1/200$ of a second.

$f/4.5$, $1/250$ or $1/300$ of a second.



The $1/200$ speed is rapid enough to "stop" most normal action and at $f/5.6$ there is enough depth of focus to simplify the focusing problem.

An active child will refuse to stay in one spot long enough to be photographed.

Frequently, he will persist in running to you just when you are making an exposure. To avoid these difficulties, the child's attention should be engaged with some situation or object which will keep him interested and quiet. Do not make him conscious of the camera.

Many simple devices suggest themselves. Put him in a box or basket, and snap him when he is trying to get out. Put one of his toys just out of reach, and take a picture while he is trying to get it. Have someone play catch with him, using a new ball. Start him digging a hole, or filling a pail with sand, or piling up blocks.

Should these fail, try blowing a whistle, crowing like a rooster, baaing, mooing, meowing, barking. Noises of this sort will usually "freeze" the most active baby into a listening attitude, giving the photographer an opportunity to make a picture.

For indoor shots, even with a very slow lens, flash bulbs can get good baby pictures. Set the camera on a firm support, set the shutter on bulb, open the shutter, flash the bulb, and close the shutter at once.

? Question: What is an action camera?

Answer: An action camera is one which will take sharp pictures of objects or people in rapid motion. It must have high shutter speeds. A speed of $1/200$ of a second is the minimum for fast action work, while the top speed may be as high as $1/1000$ second. Such a camera may or may not have a lens of large aperture.

Since most action pictures are made outdoors, in bright sunlight, action cameras need not have fast lenses. Outdoor photographs of dancers leaping high in the air, for example, can be made at $f/8$, $1/1000$ second, using Superpan Press film and a 2-X yellow filter. In dull weather, a faster lens is necessary.

Action cameras are usually equipped

with a synchro-flash gun. The Speed Graphic, which generally has an $f/4.5$ lens, is a popular "action" camera.



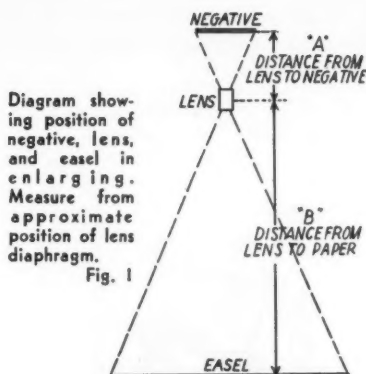
ENLARGER NEGATIVE-LENS-PAPER DISTANCES

WHENEVER, for the purpose of making an enlargement, a lens is set at a definite distance from a negative, there is but one plane on the other side of the lens where the image of the negative will be focused sharply. The process of focusing an enlarger consists essentially of adjusting the distance from the negative to the lens and from the lens to the sensitized paper until the projected image is sharply focused.

The table below lists these distances for enlargers using lenses of five common focal lengths, and for enlargements up to and including ten times the linear size of the negative. By referring to the figures, you can determine the maximum size of the enlargements you can make with your equipment in the space at hand. The headroom required to operate a certain enlarger to its fullest capacity, is found by adding the distances A and B (Fig. 1).

These tables can be employed also for determining the bellows extension, preferable lens focal length or closest working distance for a camera used in close-up or copy work. In such cases, if the distance from lens to object being photographed is less than twice the focal length, A and B are reversed, making A the distance to the subject and B the distance to the film plane.

If you have a camera with a 4" lens and a maximum bellows extension of 12", for example, how close can you approach an object and keep it in focus? Looking at the table you find that, for a 4" lens when "B" is 12", "A" is 6". Therefore, you can photograph objects 6" from the lens. Or, if the bellows extension is only 6", used



with a 4" lens you can focus an object 12" from the lens. Furthermore, you can see at a glance that the size of the image will be twice the size of the object in the first instance, half the size in the second. In working out such problems, reference to the drawing will help you to put the values where they belong.

For the mathematically minded, here are the formulas used in preparing such a table:

$$E = \frac{A}{B} \quad E = \frac{B-f}{f} \quad E = \frac{f}{A-f}$$

where E = Times enlargement (linear)

f = Focal length of lens

A = Distance from object to lens

B = Distance from image to lens

ENLARGER LENS-TO-NEGATIVE AND LENS-TO-PAPER DISTANCES

Times Enlargement (Linear)	2" lens (50mm.)		3" lens (75mm.)		4" lens (100mm.)		5" lens (125mm.)		6" lens (150mm.)	
	A to Negative	B to Paper	A to Negative	B to Paper	A to Negative	B to Paper	A to Negative	B to Paper	A to Negative	B to Paper
	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches
1.....	4	4	6	6	8	8	10	10	12	12
2.....	3	6	4-1/2	9	6	12	7-1/2	15	9	18
3.....	2-2/3	8	4	12	5-1/3	16	6-2/3	20	8	24
4.....	2-1/2	10	3-3/4	15	5	20	6-1/4	25	7-1/2	30
5.....	2-2/5	12	3-3/5	18	4-4/5	24	6	30	7-1/5	36
6.....	2-1/3	14	3-1/2	21	4-2/3	28	5-5/6	35	7	42
7.....	2-2/7	16	3-3/7	24	4-4/7	32	5-5/7	40	6-6/7	48
8.....	2-1/4	18	3-3/8	27	4-1/2	36	5-5/8	45	6-3/4	54
9.....	2-2/9	20	3-1/3	30	4-4/9	40	5-5/9	50	6-2/3	60
10.....	2.2	22	3.3	33	4.4	44	5.5	55	6.6	66

VARIATION OF EXPOSURE WITH DEGREE OF ENLARGEMENT

WHENEVER the degree of enlargement is increased, the lamphouse position is changed and the exposure time must be increased. If the enlargement size is decreased the exposure must be shortened.

The following table shows the relative exposure times for various degrees of enlargement, with a unit time (1 second given for a 1:1 enlargement).

TIMES ENLARGEMENT	EXPOSURE FACTOR	TIMES ENLARGEMENT	EXPOSURE FACTOR
1	1	13	49
2	2.25	14	56.25
3	4	15	64
4	6.25	16	72.25
5	9	17	81
6	12.25	18	90.25
7	16	19	100
8	20.25	20	110.25
9	25	21	121
10	30.25	22	132.25
11	36	23	144
12	42.25	24	156.25

Given the exposure required for a certain degree of enlargement, on a certain type of paper with a definite light intensity, to find the correct exposure for another degree, with the table, use one of the following methods:

METHOD I

- Find the normal exposure or 1:1 factor for the negative by dividing the known exposure time

VARIATION OF EXPOSURE WITH LENS APERTURE

When a diffusion-type enlarger is used, the exposure varies with the settings of the lens diaphragm as follows:

f VALUE OF LENS	EXPOSURE FACTOR (Relative exposure time)
2.8	1
3.5	1.5
4	2
4.5	2.5
5.6	4
8	8
11	16
16	32
22	64
32	128
45	256

To figure the exposure at one aperture either larger or smaller when the exposure is known for any other aperture use one of the following methods:

METHOD I

- Find the "basic" exposure for f2.8 by dividing the known exposure by the exposure factor for the lens setting.

by the exposure factor for the degree of enlargement you have been using.

- Multiply the normal exposure thus obtained by the factor for the new degree of enlargement. Example: The exposure for a 7X enlargement is 40 seconds. What will it be for a 10X enlargement, light intensity, lens opening, paper and other conditions remaining the same? The factor for a 7X enlargement is 16, and for 10X, 30.25.

40 divided by 16 = 2.25 seconds, the 1:1 exposure $2.25 \times 30.25 = 75.6$ seconds, or 76 seconds, the new exposure.

METHOD II

- Divide the exposure factor for the new degree of enlargement by the exposure factor for the degree for which exposure is known.
- Multiply the number thus obtained by the time in seconds for the known exposure. Thus, using the figures in the above example, $\frac{30.25}{16} \times 40 = 75.6$ seconds.

Methods I and II apply whether the new degree of enlargement is greater or smaller than the original. For reduction, Method II will involve a fraction.

The exposure factors in the table were calculated with the aid of the following formula:

$$E. F. = \frac{(N \text{ plus } 1)^2}{4}$$

Where E. F. = Exposure Factor
N = Times enlargement

- Multiply this basic exposure by the factor for the new lens opening.

METHOD II

- Divide the factor for the new lens setting by the factor for the original setting.
- Multiply the quotient by the original exposure time.

Example: The exposure at f8 is 20 seconds. What will it be if the lens is stopped down to f16? Method I: 20 divided by 8 = $2\frac{1}{2}$ seconds, the basic exposure.

$2\frac{1}{2} \times 32 = 80$ seconds, the new exposure.

Method II: 32 divided by 8 = 4 seconds.

$4 \times 20 = 80$ seconds.

These values apply only to diffusion-type enlargers and not to converging-beam condenser enlargers using concentrated light sources. In the converging type the speed depends upon the size of the light spot formed in the enlarging lens by the condensers rather than on the aperture of the enlarging lens.



Work in the general outline of the sketch in the darkroom, then compare the sketch with a photographic print and touch up the tones and outline.

SKETCHING WITH YOUR ENLARGER

By HOWARD BRISCO
Illustrated by the Author

ADAM must have been the first to convince himself that a little training would make him a ring-tailed whizzer with a paint brush or pencil. Now anyone, simply with the aid of an enlarger can make sketches that will set astonished friends back on their heels. Sketches can be made on paper, cloth or other surface and there will not be the slightest trace of a photographic image to give away the secret of the device used.

The method is simplicity itself. Select a negative you especially like, preferably one with plenty of contrast. Place the negative in the enlarger and focus it sharply on whatever sketching surface you have chosen. Leave the lens at its largest aperture. Then, working with a soft drawing pencil such as a 2-B pencil or crayon, fill in the light areas as projected on the paper. Leave the dark areas alone. Use a light sketching stroke in order to avoid a stilted appearance in the final picture. Turn on the room lights occasionally to see what progress you are making and to give the enlarger a chance to cool off, so that the negative won't burn. You'll be surprised at how rapidly an 8x10 sketch can be made and at the accuracy with which the work can be done. When the paper appears uniformly gray under the enlarger the darkroom part of the job is finished.

Now take the sketch and a photographic print of the negative to a table under a good light and smooth up your pencil work by comparing it with the tones in the print. Needless to say, your control of this process is absolute. If you don't like the background in the negative, sketch in another. It's fun, it will teach you something about drawing, and the results will be gratifying.

Sketches such as this are made rapidly from sharp negatives. There is no trace in the finished picture of a photographic image.



BEING CRITICAL

— YOUR SNAPSHOTS AND HOW TO IMPROVE THEM —



"Mermaid." Rolleicord camera, Superpan press film, f8, 1/300 second.

THE general effect of MERMAID is pleasing, yet close analysis will show that the posing is not satisfactory. The position of the girl on the beach in relation to the rest of the picture is commendable, for she fits nicely into the general composition, but when we look at her closely, and this is much easier to do in an enlargement than in the small reproduction shown here, we see that her left hand is flat toward the camera, with all the fingers extended. This not only places the hand in an unattractive position, but gives it too much prominence.

The other arm is bent slightly inward at the elbow giving the impression that it is used to brace the figure. To convey the mood of the scene, which is one of relaxation, the arm should be resting in the sand.

The lower right-hand corner of the picture might have been darkened slightly by dodging during enlarging. This should not be overdone, but the composition of the picture would be improved if the tone of this sand were a little darker than that in front of the model.

The trick of concealing a bare light directly behind the subject's head used

in PORTRAIT produces interesting outline lighting. However, this procedure is more useful for trick effects than for serious portraiture. As can be seen in this picture, such a light will throw a white edge around the blackest drapes, but it takes a long exposure and an intense light to get this effect in the final picture. Such lighting is much more effective when used with a blond model and combined with front lighting. It adds sparkle to the hair.

The posing of the girl's head in PORTRAIT is unfortunate, for her chin forms a line parallel with her shoulder. Since the chin is very square, this treatment only serves to accentuate it unduly.

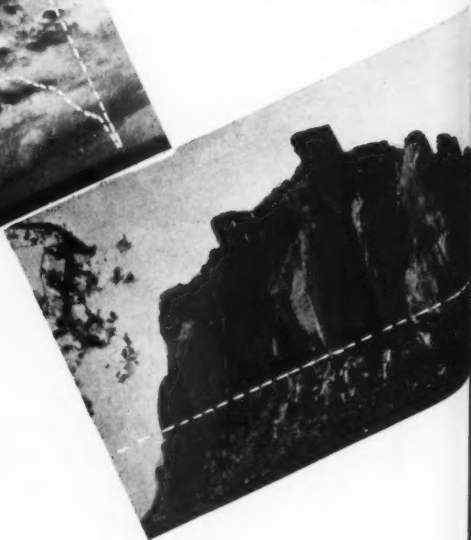
The background shows interesting tonal variation in the three stripes of different shade. However, if the lightest shade was placed in front of the girl's head and the darkest one behind (Page 100, please)



"Portrait." Exakta camera, Super XX film, f4.5, 1/25 second.



The clouds for the sky
(left). Fig. 1
The rocks for the back-
ground. Fig. 2



LANDSCAPES

Made to Order

HAS your mind ever visualized a mythical landscape, a private Shangri La of its own? Here's how one photographer put a "Dream's Eye" view on paper: He put together a cloud negative, Fig. 1, some rocks and ruins, Fig. 2, a slumbering village, Fig. 3, a beach full of people, Fig. 6, and a parked car, Fig. 5.

An enlargement eight inches long was made from the negative of Fig. 3. This was used as the key print in determining the size of the others.

When the print was dry it was laid on the enlarging easel and the negative for Fig. 2 was inserted in the enlarger and focused until it fit above the town. A

The village for atmosphere. Fig. 3

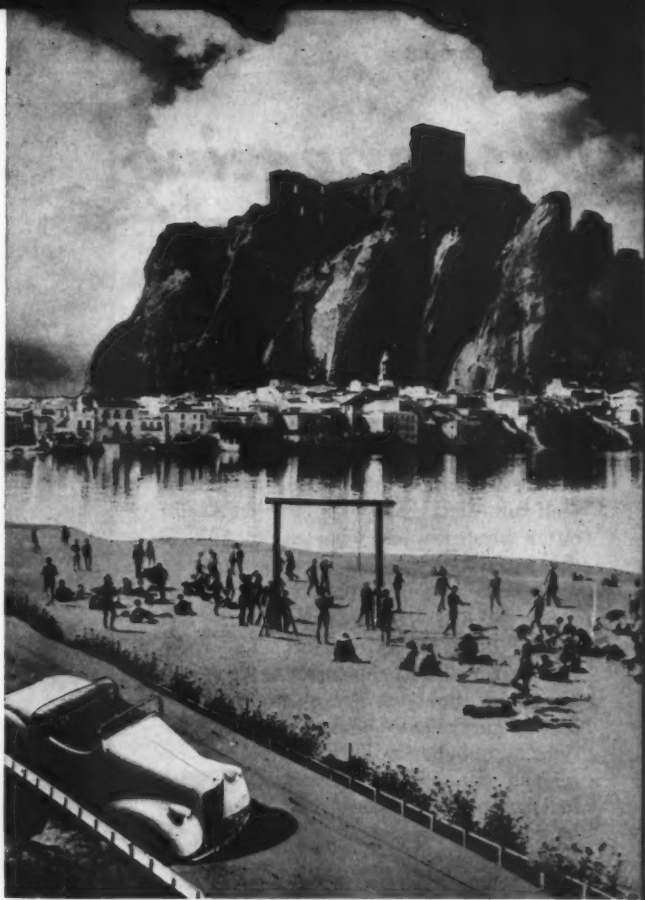


print was made. Then the beach scene, Fig. 6, was enlarged to fit below the town. The landscape was topped off with a cloud frosting and the car added. It was made large enough to stand out in the foreground.

When the five prints were dry, the parts to be used were cut out with a razor blade as shown by the dotted lines on the illustrations. The edges were bevelled by rubbing the backs of the cut portions with very fine (No. 00) sandpaper and the parts pasted together on a piece of cardboard and copied.

When the cutting and mounting have been done carefully, and copied no one is able to tell that a number of pictures were combined to make one landscape. And all his friends wonder where in the world this landscape is.

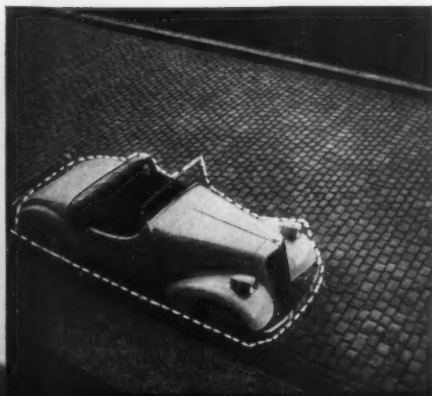
Single weight prints may be cut with sharp scissors. Prints become limp and easy to handle if soaked in Agfa Flexo-gloss or a dilute solution of glycerine after washing and just before drying. If mounted with rubber cement or Fotoflat a print can be taken up and shifted if necessary. Use a heavy card mount and the paste-up will lie perfectly flat for copying.



"Dream Landscape," a photographer's own private Shangri Lal Fig. 4

The automobile (lower left) for the foreground. Fig. 5

The beach (lower right) full of people for human interest. Photos from Montmeyer. Fig. 6



Disappearing

Act

A HUNGARIAN scientist, Stephen Pribil, is reported to have brought reality to the wishful imaginings of H. G. Wells. He claims to have found and demonstrated a way to make people invisible.

Since photography is now considered the best method of proving hypostasis (self-subsistent reality), Mr. Pribil sought out a photographer who was to give to the world the news of this discovery of discoveries via pictures.

Statues first were used in a large box lighted by a 100-watt lamp. The room was darkened and the inventor then manipulated the controls in another box. Slowly the objects began to fade from sight although the light in the box remained the same. After a minute they had completely disappeared. They could be felt but not seen! A few minutes later they reappeared.

According to Mr. Pribil the light rays which the eye sees oscillate from four to eight hundred billion times a second. If rays outside these limits are produced and directed onto an object, the object reflects rays invisible to the human eye and thus it cannot be seen. The fact that it *fades* from sight is due to the mixing of visible and invisible rays. When the invisible rays entirely replace the visible, the object can no longer be seen.

Thoughtful observers may question this theory and also wonder why the chair did not disappear with the two women. The center picture could have been made by double exposure or by double printing, using a negative of the empty stage.

Obviously these photographs neither prove nor disprove the actuality of "invisible rays," because such pictures could be duplicated by anyone versed in trick photography.



Going . . .



Going . . .



Gone.



Mr. Pribil at the controls during the "Premier of Invisibility," mixing "invisible" and "visible" rays of light.

K A M E R A

- Quiz

TEST YOUR KNOWLEDGE OF PHOTOGRAPHY—THEN SEE ANSWERS AT END OF QUIZ

IF YOU can score eight out of ten correct in these questions, you are well on the way to a successful summer's work.

1. If you use cut film in your view camera and one of the negatives prints like this, is it because—

- a. You neglected to agitate during development?
 - b. Your thumb obstructed the lens?
 - c. One shutter vane stuck?
 - d. The protective slide was not properly returned?
2. a. An out-of-focus negative can be caused by the filter and film used.

True False

b. The inside of a lens shade should have a dull or matte surface.

True False

c. Indoor Kodachrome used outdoors without a filter results in a red-tinged picture.

True False

d. Stopping down increases the tone range of the negative.

True False

3. Why do green trees photographed on infra-red negatives print white?

- a. Green, the opposite of red, is represented by an absence of color, i. e. white.
 - b. Foliage reflects a large amount of infra-red rays, affecting the negative more strongly and therefore printing white.
 - c. The red filter used passes a large quantity of green light rays.
 - d. Infra-red film does not record green.
4. In making a series of panorama shots it is important that the camera be turned—
- a. 120 degrees for each exposure.
 - b. On its tripod socket.
 - c. Horizontally.
 - d. On the optical axis of the lens.



5. If the contact prints of a roll of negatives are all like this, what is wrong?

- a. A piece of film was caught in the track.



- b. Cracked lens.
- c. Torn focal plane curtain.
- d. Leaky camera back.

6. In amateur movies the wheels of moving vehicles sometimes appear to be going backwards. What is this effect called and what causes it?

- a. Myopic.
- b. Dioptric.
- c. Stroboscopic.
- d. Refraction.
- e. Diametric.

7. Most films have an anti-halo backing. When is this removed?

- a. In the developer?
- b. In the short stop?
- c. In the hypo?
- d. In the final wash?

8. This is a flash shot made with a focal plane shutter. Why is it light at one end and heavy at the other?



- a. Shutter speed too high?
- b. Weak batteries?
- c. Bad bulb?
- d. Shutter speed too slow?

9. If gamma is the arbitrary numerical valuation placed on the degree of contrast in a negative, and over-exposure tends to cause decreased contrast, while development increases it, what would be the result if a negative were over-exposed and over-developed?

- a. Extreme contrast.
- b. No contrast.
- c. Correct contrast.

10. When shooting movies over water or on a beach, if a meter reading showed that the highest speed and smallest aperture would still result in over-exposure with the film used, you could best compensate by—

- a. under-developing.
- b. proceeding in the usual way and reducing later.
- c. letting the film stand several weeks before developing.
- d. using a diluted developer.
- e. using a filter.

(Answers on page 103)

PICTURE OF THE MONTH

BY ALEX KING

MOST of the entertainments of the very poor are either unspeakable or unprintable, but many of them get printed just the same. When an empire totters, even the smallest supporting pegs are of some account of course. And so it happens that the noblest in the land bow down and whisper reassuring words into the ears of those with whom the brunt of victory or defeat invariably lies.

The King and Queen of a great nation go among their people, living symbols of an authority which is dazzling if not quite clearly comprehended. They are the Empire. From far and wide the humble congregate to catch a tiny reflection of glory from that august height where these miraculous personages live in a dream world of unapproachable security. A small man trembles for his life and their wisdom. It is a pageant, in short. A pageant wherein the gods descend among the multitude to offer consolation and benediction to the doubtful and afflicted of heart.

It is a difficult role for all parties, and equally trying to every participant in the masquerade. The grown-ups manage it somehow. Laved by a dubious past, nour-

ished on compromises, minds filled with devious stratagems, they have finally settled to seeking diversion in all things. A birth, a marriage, a death or any intermediate joy or calamity becomes the trysting place for their wandering attention and brings to their vacant faces the transient smile of an unrehearsed tepid entertainment.

The future may not believe what we *say*, but it cannot help being troubled by what it will *see*. This particular photograph, in all its pathetic austerity, is great because it has captured an unpredictable moment, a sudden and embarrassing denouement in what would ordinarily have been a routine performance for a group of seasoned troupers. The King and Queen of England, chatting with the next of kin of those who fell in the great battle of the Graf Spee, had done their painful best and tied neat condolences into apt and careful phrases. And then suddenly a little girl, a mere amateur at grief, had found the moment less exhilaratingly diverting than her elders and burst into unpremeditated tears.

The great poignancy of this picture lies less in the unexpected, untidy crisis of the chief protagonists than in the faces of the minor characters in this bitter charade. Consider the ladies of the ensemble, accoutered in their dismal finery as if fate had measured someone for such and such a hat and not finding the proper customer, had carelessly withdrawn its original intention and offered this specifically unbecoming costume to the next-comer. Observe the whimsically puckish smiles, the Byzantine eyebrows on the two gentlewomen who immediately face the Queen. Forever uncovered, the nudity of their minds shall lie before the gaze of troubled centuries and worthy men a thousand years from now will marvel at the sordid sources within the heart from which their entertainment was derived. If they are fellow-sufferers they have made a decorous and becoming peace with their misgivings. (Page 102, please)

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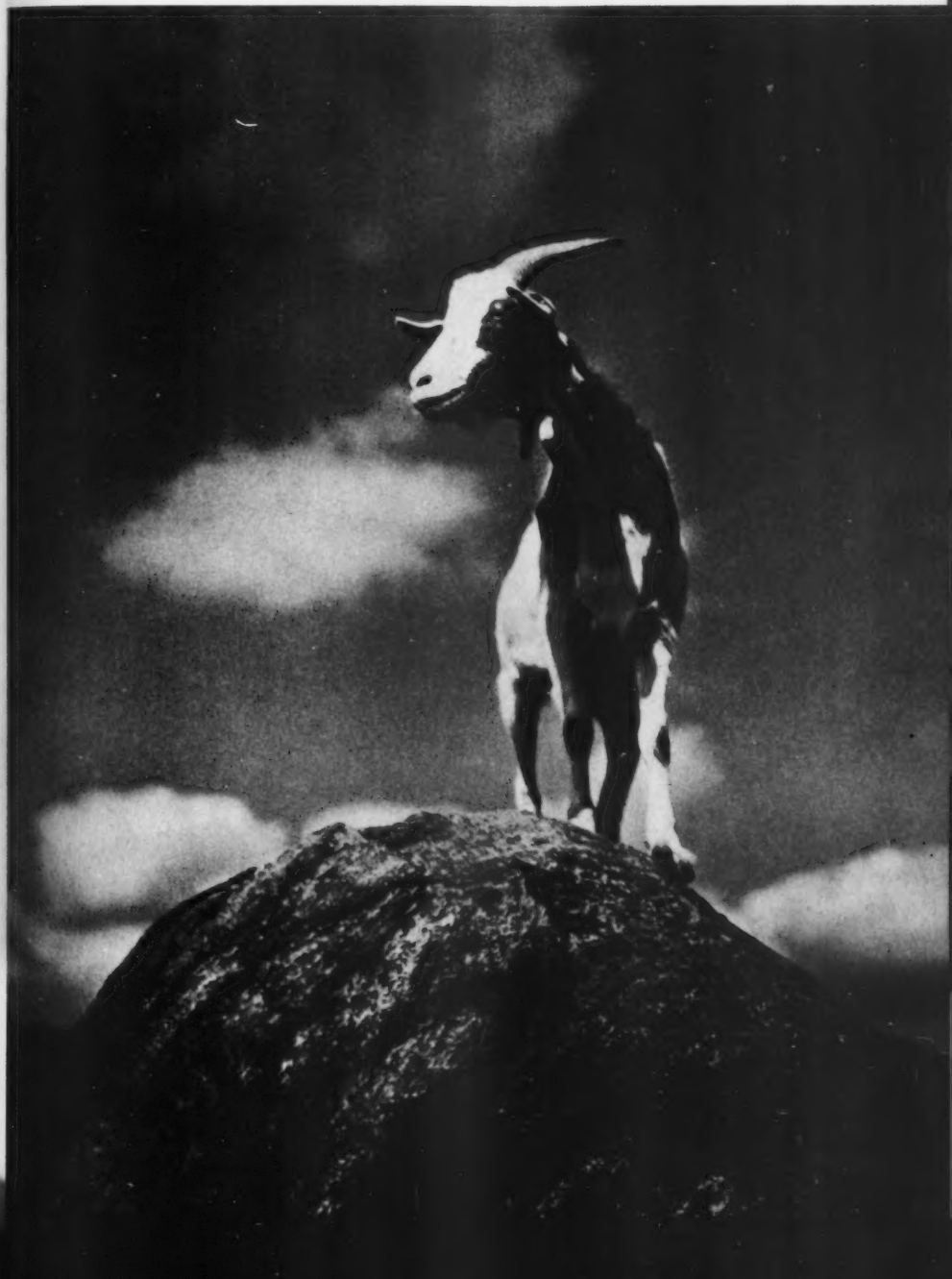
BY CHARLES A. POTTS, LOS ANGELES, CALIF. (above).

Beginning on this page are eight reproductions from the Seventh International Salon of the Pictorial Photographers of America. Exhibited in New York City, the salon smashed all attendance records.

"RECONNOITRE." BY ARNOLD V. STUBENRAUCH, MEDIA, PA. (Next page).

Anyone who has tried to get even the family pup to pose for a portrait can imagine the feeling of triumph a photographer gets when a picture like this turns out. Defender X-F Pan film, developed in DK 76, Brovira paper in Agfa 135, straight print with sky and rock printed in darker.

SALON SECTION





"WHY?"

BY HOWARD W. OSBAHR, BAYONNE, N. J.

The thirty million young men in uniform throughout the world today may well be asking themselves this question, "Why?". Their perplexity makes this subject timely in a war-torn world. The dramatic effect was obtained by backlighting which also shows up the textural surfaces of the face. This photo was taken in the club rooms of the Lens Club of Bayonne during a monthly competition on "Character Studies." The model is Henry Hagenau, a fellow club member, who has made up for the part with the aid of olive oil and a little charcoal to smear the forehead. Taken on Super Plenachrome Press film, developed in Agfa 47. Print on Vitava Opal G developed in Agfa 103, diluted 4 to 1. In enlarging, the right eye was held back a little and all corners flashed in.



"THE CYCLE OF LIFE"

BY D. J. RUZICKA, NEW YORK CITY

The New York World's Fair reopens this month. The above is one of a group of three prints of one subject at the Fair, depicting the morning, noon and night of life. Unessential details and scale have been so carefully suppressed that the picture has the appearance, almost, of a perfect table-top still-life. If this statue were photographed against a naked sky, some billowy clouds would have been needed to complete the picture. In this instance, the Perisphere served the purpose admirably. Photographed on Eastman Super XX film, yellow (K2) filter, f10, 1/50 second.



"SUNNY BOY."

JANOS SZTALY, BUDAPEST, HUNGARY.

Parents tend to prefer child portraits showing the entire face, particularly the expression of the mouth. Yet, in this print, made for pictorial rather than remembrance value, the composition is greatly enhanced by placing the child's hand and arm diagonally across the lower portion of the picture.



"AFTER WORK." BY LO TAK-CHO, HONG KONG, CHINA.

The exotic flavor of this vivid scene gains its dramatic quality from the into-the-sun angle. It is easier to shoot against the light when the camera is pointed down, as in this picture, keeping the light source out of the direct lens angle of view. Sparkling water and long shadows always are good dramatic elements. The length and direction of the shadows show that the sun was low and just to the left of the subject. Note the texture in the background mud bank. Rolleiflex camera, Panatomic film, green filter, f6.3, 1/100 second.



"NEW ENGLAND SILHOUETTE."

BY ELEANOR PARKE CUSTIS, A. R. P. S., WASH., D. C.


This picture depends for its interest and poster effect on the contrast between the simple dark forms of the buildings and trees, and the brilliant, cloud-filled sky with its slanting sun beams.

"MONTAGE."

BY CHARLES A. POTTS, LOS ANGELES, CALIFORNIA.

This print demonstrates masterful handling of two difficult photographic problems, the nude human figure and multiple-exposure. One major appeal of the nude figure is rhythmic, and one of the difficult problems of this kind of subject is to present these rhythms without an abundance of distracting detail. In multiple-exposure pictures the photographer has the doubly-difficult job of securing effective images that do not lose significance when combined in one print.





INSIDE DOPE *from* HOLLYWOOD

THE hottest report that has hit the picture studios in Hollywood in years has it that Dupont is coming out with an amazing new development in emulsions. It's a film emulsion and, if the rumors have any foundation in fact at all, it seems that one of the worst bugaboos in photography, namely the problem of over-exposure, is about to be banished to oblivion.

The new emulsion, it's claimed, makes it impossible to over-expose a shot. Here's how it's supposed to be done. The emulsion is to contain an acid 'buffer'. The more over-exposed a shot is the more acid is released into solution, restraining the developing solution, which, as we all know, is alkaline, thus retarding development and allowing for a negative of properly balanced density. It's a peach of an idea. We can't wait to see it for ourself. Now if some bright photographic scientist will make it impossible to *under-expose* what a cinch photography will be! The poor lens manufacturers would all go broke because costly high-speed hunks of glass wouldn't be needed any longer. Speed won't matter if you can't under- or over-expose.

While on the subject of rumors, Hollywood's the hot-bed of the fanciest kind imaginable. Dupont also is reported about to cut itself in on a chunk of the amateur film trade by summarily telling Eastman and Agfa to shove over and make room for another line of roll and cut film. Another rumor has it that Eastman is readying a batch of plastic filters. Out here in the West the plastics are the favorites. And that's not because of the low price of plastics, but rather because they say that plastics pass ultra-violet light which optical glass doesn't. We don't know about that, we're just plain ignorant. We tried a medium yellow and a 4x red and they worked dandy, but they scratch easily and a scratched filter is the quickest thing we know to destroy definition. So we chucked the plastics and went back to optical glass.

Did you ever hear the chin-music set up by a gang of photographers when they get to-

gether? Professional photographers are the worst. Each and every one of them will talk your arm off on the subject of photography. It was our good fortune to get hooked in with a group of professionals at the Hollywood Photographic Dealers convention several weeks ago in Hollywood. After listening for hours on the comparative merits of ABC Pyro versus metol, and orthochromatic emulsions versus panchromatic, we finally did gleam a perfect gem of new information. One pro had shot a group of indoor industrial negatives and found them too thin to print satisfactorily. It was impossible, he said, to make retakes and he had to deliver prints without resorting to routine intensification because, as he claimed, the resultant contrast would ruin the job. Consequently, he bleached out and re-developed in sepia the way he would ordinarily handle a print instead of a negative. The brown stained tones printed perfectly, without excessive contrast.

We always wondered what happened to old champagne bottles. Now we know. Hymie Fink, Hollywood's demon film photographer who covers all the parties and night spots out here for the fan magazines, collects them to store solutions. He saves only the gallon size (we had to come to Hollywood to discover that champagne comes in gallon bottles). Fink swears by DK-20 for both his Contax and Speed Graphic shots. He makes up five gallons at a clip and ages it for two months before touching a drop. He contends aging is the answer to fine grain, and he ought to know.

It's surprising sometimes how important little things are. Take that matter of sprocket holes in movie film. Like the holes in doughnuts, everybody takes them for granted. But those little sprocket holes are said to have made one man a fortune. When 35 mm. film was first made for the movies way back when each studio had to punch its own holes there was the very devil to pay because no two studios put out film which would thread in a standard projector. Along came Mr. X. Magnanimously, and seemingly out of cheer kindness of heart, he volunteered to punch standard holes for everybody's film. And for nothing. Naturally, it was an expensive proposition. Why did he do it? All he wanted was the film he punched out of the sprocket holes, from which the converted silver paid him ten times over for his "kindness." Now Eastman, Dupont and Agfa punch their own sprocket holes.

Incidentally, Consolidated Laboratories, which processes the bulk of the Hollywood productions, reclaims from its hypo enough silver each year to pay for all the chemicals used in the plant.—By MICHEL JACOBV.

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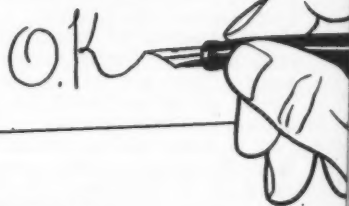
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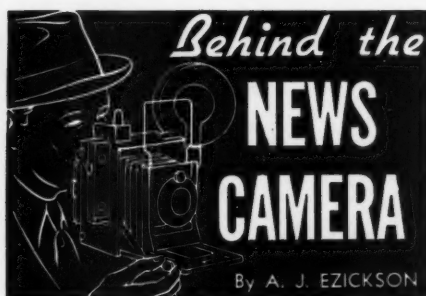
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THE press boys got a taste of what war's like when they camera-witnessed a test of Lester Barlow's new explosive, "glmite," near Baltimore. As in a scene from the Western Front, reporters and photographers crouched behind sandbags while the famous bomb inventor went to work exploding the small charges with electrical detonators. Picture after picture was snapped as the "glmite" exploded with a roar and a flash, kicked up a shower of dirt and hurled pieces of wood as high as 150 feet into the air.

Gotham's news photographers were literally "up in the air" in covering the arrival of the liner Queen Elizabeth following its dramatic voyage across the Atlantic. No other story in years has been covered by so many lens-shooters. Every newspaper, every syndicate, besides a number of reputed free-lancing outfits, had photographers up in planes. From Roosevelt Field, Holmes, Floyd Bennett, LaGuardia and Nassau Airports, the planes shot up at the crack of dawn, headed eastward toward the broad Atlantic and the shipping lanes in the race to get the first glimpse of the giant liner and to snap the first pictures.

In a TWA airliner, George Alexanderson, *Wide World* staffer, Victor Amato of the *Brooklyn Eagle*, Pat Mulligan of the *New York Sun*, John Whalen of *Acme Newspictures*, and Al Aumuller of the *World Telegram* were the first to sight the massive ship creeping in out of the morning mist 45 miles southeast of Fire Island. The time was 6:50 a. m. Dozens of pictures were snapped with the boys' Speed Graphics, while the plane swept low and followed the ship for a distance. Then back to LaGuardia Airport by eight o'clock. One-half hour later Alexanderson was back at the office developing his films, and just 15 minutes thereafter the first wire-photo was on the telephone wire to make first editions all over the country. An amazing instance of speedy news-picture coverage!

The types of planes, and cameras used by the aerial shooters were many: Buck Baron, International's vet, in a Waco Cabin, piloted by Charles Stoffer, used a Fairchild Aerial camera; the Associated Press used a Beechcraft

plane and shot with Speed Graphics; the two Daily News planes, Fairchild Aerials; Marion Grevenberg, using a Sesna C 34 plane, and Rudy Arnold in a Waco Cabin, also shot with their Fairchilds, while Charles H. McLaughlin of McLaughlin Aerial Surveys, flying in a Piper Cub, made more than two dozen pictures with his Eastman K 10 Aero Camera. All the way up lower New York Bay to Quarantine and thence to her North River pier, the world's largest liner was the target of the "black-box bombers." The average exposure was 1/130 of a second at f6.3. In the dwindling light of late afternoon when the S.S. Queen Elizabeth finally nosed into her berth, the lens was opened to f5.6 and exposure held to 1/100.

Should subjects always be told to smile for the cameraman? Some object, and Mrs. George M. Dewey, mother of District Attorney Thomas E. Dewey, Presidential candidate, is averse to the "look pleasant and smile" pose. "I shouldn't be smiling all the time," said Mrs. Dewey, "it'll look as if I'm advertising some tooth paste or something." She was giving a "mother of the candidate interview" at the Dewey Campaign headquarters recently and made her remarks about smiling when the photographers persisted in asking that she smile while they took picture after picture.

After all, looking serious is more natural anyway, these serious days.

The first picture to reach the outside world of the terrible mine explosion at Bartley, West Virginia, which took a toll of 80 lives, came from Miss Carol Douthot, Bluefield, West Va. *Daily Telegraph* staff photographer and reporter. Excepting a Bartley amateur, she was the first news photographer to be at the scene, having rushed there by car from Bluefield, arriving shortly after the first news flash had gone over the wires.



Getting the first pictures was no cinch. Mine officials and state troopers planted themselves at the mine entrance, and a police sergeant, on seeing her camera, brusquely warned that there was to be no picture taking. She ceased politely for a while, but knew she had to get some pictures, so waited until his back was turned. Each time he turned and said, "This is the last time I'm going to warn you, sister." A threat of destroying film and camera accompanied the last warning. She then decided to leave while the going was good, and rushed back to Bluefield to develop and print. In the meantime, picture syndicate staffmen were rushed to the scene but did not arrive till morning. Phone calls had been

(Page 102, please)



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IT AIN'T SO!!

Hypo splatter
Doesn't matter.

MODERN VERSION: "You must come up sometime and see my etching masks!"

DON'T EXPECT THEM TOMORROW but they're not impossible:
"Invisible flash" bulbs
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Non-curling photographic papers

RUMOR DEPT.: The govt. has nothing to do with wash-off RELIEF film.

MANY LECTURERS save on hotel expenses—they have their own bunk right with them.

The CONSUMMATE ARTIST to the end: the photog who committed suicide with ground glass.

FASHION NOTE: We saw a photog the other day with a leopard skin camera case—must have made it with a spotting brush.

HOW TO GET IN DEEP WATER: Try photographing lily pads with an 8x10 view camera from a canoe.

"My husband kissed me last night for the first time in three years."

"Mine came home with some new photographic equipment, too".

RETOUCHING WILL FIX THAT: The model who does everything under the sun has shadows under her eyes!

NOT SOLD IN CAMERA SHOPS:
Technicolor film
Gamma
Composition
Print quality

SPLICER: Marryin' Sam, the preacher man.

INFAMOUS LAST LINE: "OH, so you have to pull out this tube with the glass on the end before you snap the picture?"

TYPOGRAPHICAL ERROR: "Edison was inventor of the pornograph and the indecent lamp."

IT ISN'T OUT YET an "8-Ball Developer"—it should be darn good with so many people behind it!

VISCOSE TO SHOW YOU

A careless young photog from Spars
Found a chamois he'd used washing cars,
He rinsed it out once,
Wiped his films like a dunce,
And now his portraits have vertical scars.

SALON JURISTS: people who make snap judgments.

MISNOMERS:

"Bulb" on most b-i-shutters.
"Brilliant" finders.
"Hypo"—(should be "thio").
"Gamma" for "contrast".
Some 'miniature' cameras.

TOASTS FOR CAMCLUB BANQUETS:

"To photography and its continued development!"
"To cameras—may they always click!"
"To SUPERPAN PANNING—long may it ravel!"

TAXIDERMIST WITH A CAMERA?
"There's a photographer who knows his stuff."

WE'VE ALWAYS WONDERED: Do the f64'ers time exposures by watch or calendar?

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Developing Idea!*

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Develop cut film and film pack negatives more quickly, more easily, more beautifully with the ROTO REEL Tank . . . takes 12 negatives from 35mm. to 2 1/2" x 3 1/2". Tempered bakelite construction.

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FILM DEVELOPER (Doran)
The "Air-Way" Fine Grain**

**Invasion Process Develops Photo-
graphic Negatives, Giving These
Advantages:**

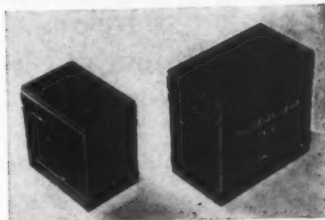
★ Develops ALL films regardless of emulsion speed at one time and at one temperature. ★ No increase in developing time regardless of number of films developed. ★ Maximum detail in shadows and highlights. ★ Compensates for gross over or under exposure. ★ Imparts 3 dimensional effect—depth and roundness. ★ Produces fine grain results. ★ Most economical—will develop as long as there is sufficient solution to cover the film. ★ Does not deteriorate or need replenishing. ★ Use it with your present equipment—no new gadgets to buy. ★ It is absolutely unnecessary to touch the film until it is removed for drying. ★ Enables the novice to achieve professional results—it's foolproof.

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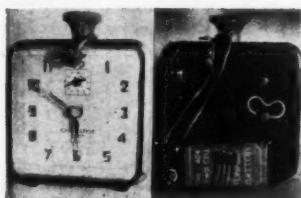
Paper Cone Aids in Focusing



For a focusing aid, roll a sheet of black paper into a cone and place the larger end against the ground glass screen, with the smaller end just large enough to fit the eye. Black paper that comes wrapped around film may be used. The cone may be folded for storing in the camera case. — *Kenneth Murray.*

Dollar Minute-Timer

An efficient automatic timer for timing intervals from three minutes to one hour can be constructed from any cheap clock, electric or spring-wound. The needed materials are the clock, a flashlight battery, a dime-store buzzer, and bits of wire and bolts. A hole is drilled in the clock crystal at the hour mark so that a round-head bolt can be placed in the hole in such a position that the tip of the minute hand will touch it in passing. Celluloid crystals are easy to drill, and glass can be drilled with a file point and patience.



The battery and buzzer are bolted or clipped to the back of the clock case. One lead from the battery goes to the face-bolt, the other to the buzzer, and the other lead from the buzzer is grounded to the case. This makes a switch

out of the minute hand, in series with the battery and buzzer.

The procedure in operation is to set the minute hand at as many minutes to the hour as you wish your interval to be. When the hand gets around to twelve it touches the bolt and operates the buzzer.

If the clock is to be used for time-keeping as well, it will be necessary to insert a snap-switch in the circuit, else the buzzer will buzz one minute of every hour. Otherwise, merely stop the clock when it is not in use as a timer.

—*A. J. Lockrey.*

Mixing Hypo

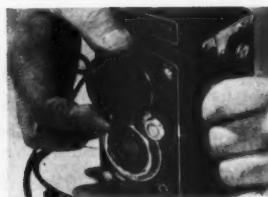
Suspend a bag of hypo half in, half out of the proper amount of water. As the hypo dissolves, being heavier than water, it falls to the bottom of the vessel. This continues until all the hypo has gone into solution. Simply add your stock



hardener and the fixing solution is ready.

Viewing Filter Over Camera Lens

The "blue glass" normally held before the eye as a viewing filter may be



held in front of the focusing lens of a reflex camera to aid in judging illumination and contrast, especially in the shadow areas. It is sometimes easier to judge the light by this method than when the viewing filter is held to the eye.—*Kenneth Murray.*

FLASHED from a front row seat!



65 FEET—1/200—F.8

One of many striking shots flashed at the circus, some at distances of 125 feet . . . each picture shot at 1/200 with only one G-E Midget, in "spot flash" reflector, the new-type high-efficiency unit that rifles G-E No. 5's light out to amazing distances.

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MAZDA PHOTOFLASH LAMPS

EXHIBITS

City	Street Address	Dates Open	Name of Exhibition
Buffalo, N. Y.	Buffalo Museum of Science	May 15 to June 16 10 to 5 p.m. week days; 1:30 to 5:30 Sundays; Also 7 to 10 Mon., Thurs. and Fri. evenings	Second Annual Nature Salon (Hobbies Magazine)
Durham, N. H.	Hamilton Smith Library, Main St.	May 1 to May 15 2 to 5 and 7 to 9 p.m.	First Annual Intercollegiate Photo- graphic Salon
Milwaukee, Wis.	Milwaukee Art Institute, 772 N. Jefferson St.	May 2 to 15 9 to 5 p.m. (Free except Tues. and Fri.)	Seventh International Salon of Milwaukee
Montclair, N. J.	Montclair Art Museum	May 15 to June 15 10 to 5 p.m. week days; 2 to 6 Sundays	New Jersey National Salon of Pho- tography—1940
Newark, N. J.	Newark Museum, Washington Park West	April 16 to June 2 Noon to 6:30 p.m. week days; 2 to 6 p.m. Sundays; 7 to 9:30 p.m. Thursdays; closed Mondays	Color Photography Exhibit
New York City	Rockefeller Center	May 14 to 22 10 a.m. to 12 p.m.	Second Annual Photographic Ex- hibit, Rockefeller Center Camera Club
New York City	American Museum of Natu- ral History, 77th St. and Central Park West	May 18 to June 9 10 to 5 p.m. week days; 1 to 5 Sundays	National High School Salon of Pho- tography
New York City	Parents' Magazine, 52 Vanderbilt Avenue	May 27 to June 14 9 to 5:30 p.m.	Organized Summer Camps for Boys and Girls
St. Joseph, Mich.	Whitcomb Hotel	May 1 to 15 8 a.m. to 12 midnight	Sixth Annual Blossom Festival Salon of Photography
Scranton, Pa.	Everhart Museum	May 11 to June 3 10 to 5 p.m. week days (closed Mondays); 2 to 5 Sundays and holidays	Fifth Anthracite Photographic Salon
Seattle, Wash.	Seattle Art Museum	May 8 to June 3	Fourth Annual 100-Print Salon of the Photographic Society of America
Sioux Falls, S. D.	Y. M. C. A. 230 S. Minnesota Ave.	May 26 to June 1	Sioux Falls First Annual Salon of Photography
Springfield, O.	Y. M. C. A.	May 6 to 21 (Open all hours)	Third May Salon, Springfield Cam- era Club
Tacoma, Wash.		May 13 to 20 10 a.m. to 9 p.m.	First Annual Tacoma Photographic Salon
Toledo, O.	Toledo Museum of Art	May 5 to June 2 11 to 5 p.m. week days; 1 to 5 p.m. Sundays	First Toledo International Photo- graphic Salon

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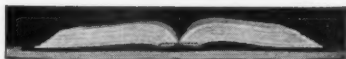
35MM FILM
Fine Grain
DEVELOPED
& ENLARGED
\$1

Tin trays from the dime store may be coated with paraffin and substituted for more expensive enamel trays. Just heat the tray over a stove and rub the paraffin on the heated metal—Kenneth Harnack.



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Record photography means not only taking snapshots on vacation trips, but also the photographing of your own friends, family, home, and town.

Visualize what pictures you will value most twenty or thirty years from now. Include scenes and details characteristic of your present activities—your job, your club projects, hobbies of other family members, hunting and fishing trips, automobile, flower garden, etc.

Familiar streets and landmarks change quickly. Photograph them now and you will be able in the future to say, "I've seen it when—and I have pictures to prove it."

These two pictures furnish an example of the "before and after" type of record photography. The top picture was taken in 1912 when Theodore Roosevelt was running for the Presidency on the Bull Moose ticket. The lower photo was taken this summer at approximately the same location.

There has been little change in the buildings shown but a considerable difference may be observed in clothing and automobile styles. Notice the absence of electric wires and poles in the lower photo.—Harry E. Hunter.



Standardize for Success

By C. W. GIBBS, A.R.P.S.

WE want to make good pictures and to make a lot of them. Sometimes these ideals are lost sight of. All manipulation can be reduced to a very simple routine—and left that way. Merely follow a little systematic experimentation at the start and from then on devote your time to making pictures.

In standardizing your technique, the first selection to make is enlarging paper. This may appear to be working backwards, but it is the correct way to approach the subject. Pick a certain paper surface and contrast that you would like to use for most of your work. If you do not wish to hold yourself down to one surface at least settle for one brand of paper. The paper is the first thing to establish because you want to get as good prints as you possibly can and you can only get good prints if your negative quality fits the paper. It is on the print that the picture is judged—not the negative.

When negatives are made to fit the paper the prints are not only better but also are much easier to make. Along with the paper have a standard paper developer. Practically any normal MQ developer is satisfactory with all bromide papers as the manufacturers formulas are much alike. If you prefer to use the

the slower warm tone chlorobromide papers make test prints in various developers until you have settled on the one which produces the tone you like best.

With the paper and paper developer settled turn your attention next to the negative processing. Pick one brand of film which you think will suit the type of work you are usually doing. If you are only making high speed candid shots, then select one of the fast films. If your shots may just be called average then use a slower film of finer graininess. At the most we would recommend that only two films be used as standard brands, and only use one as a starter in working out your standard technique.

Now comes the negative developer. Fine grain developers are now recommended for negative work, whether the negatives are large or small. The reason for that is that emulsions today are manufactured entirely different and the old-time formulas are not suitable. Select a fine grain developer and keep it as your standard.

Next step is to tie the negative material and the developer together so that the combination fits your standard paper. This is where a little time and material must be used—but it saves a lot of time and bother in the long run. Load up your standard film and go out and shoot

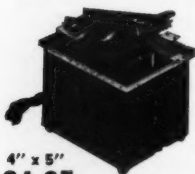
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The keen enjoyment of turning out finest quality prints is yours with an ALBERT Printer. For quality results, trouble-free performance, economy of operation, Albert Printers are unequalled. They're 'way ahead in construction and appearance, too. There's a size or model best suited to your needs; feature for feature they offer more for your money. Let your dealer demonstrate.

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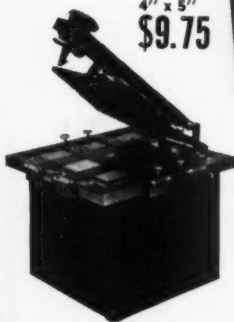
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Takes all film from 35mm to 4"x5". Special film guides for uncut 35mm film. Four steel masking bands. Hinged door for quick access to bulbs. Automatic off-on light control. Two sockets: one for white light, one for safelight. AC or DC. Attractive black enamel finish, nickel trim. Ruby bulb, cord and plug included. \$9.75 complete.



4" x 5"
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5" x 7"
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ALBERT DELUXE 5"x7" ALL-METAL PRINTER

Takes any negative from 35mm. to 5"x7". Special guides for uncut 35mm. film. Four black metal masking bands, etched with white border guide lines and numerals—three sockets—Hinged metal door for easy access to ground glass for dodging and quick bulb removal. Automatic switch, AC or DC. Safelight, cord and plug included. \$18.50 complete.

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a whole roll on a subject which you think corresponds to your average subject matter. Expose all alike. Cut off a few frames and develop the standard time in your developer at a temperature of 68 degrees. When dry, enlarge on your standard paper. If the prints look too snappy, develop a few more shots, giving them a little less time in the developer. If the prints are too flat, then develop a few negatives longer. It does not take long before you find the right negative developing time to give you perfect prints.

This experimentation will reduce your manipulation to a mere matter of routine. You have a standard film which you develop for a standard length of time. If you are accustomed to having a number of different films around, all varieties of paper and a few developers, you cannot turn out very many prints nor very good ones. By establishing a system to your manipulation, you can really devote your time to the creative side of photography and turn out "pictures" instead of photographs.



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Moisten the back of the print, then, with the face toward you, place print between the roller and handle. Place the roller and print against a flat surface, with print face down. Roll back and forth as shown in the illustration. Reverse the print edge for edge and repeat rolling, flattening the part not reached before.—
Robt. J. Reynolds.

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Searchlight Aids Focusing

(Continued from page 35)

parts provides friction.

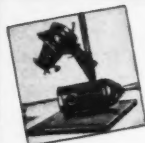
This fiber can be obtained from various electrical appliances, such as two-pronged cord plugs, where it is used to cover the cavity where the wires are attached.

The two friction joints enable the flashlight, when it is in its clip, to be swung vertically or horizontally. In use, the beam should be pointed so that it is centered in the viewfinder and rangefinder. The lens lamp will produce, at a distance of 8', a circle of light about 3' in diameter. This is sufficient for fairly close ranges. For greater distances, or use with dark-colored objects, an auxiliary lens can be mounted in front of the lamp, as suggested in the drawing (Fig. 2), to form a smaller spot.

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Complete with F:4.5 Anastigmat lens and iris diaphragm \$42.50

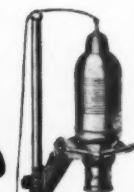
Model 2330 same as above, but with F:6.3 Anastigmat Lens \$34.50

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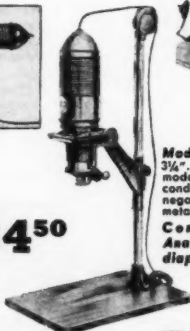
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Model 2446 for negatives 35mm to $2\frac{1}{4} \times 3\frac{1}{4}$ ". Double extension bellows (to accommodate lenses from 2" to 5" focus). Double condenser and diffusing system. Convertible negative carrier for either glass or dustless metal plates. Adjustable metal mask.

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CONTEST CALENDAR

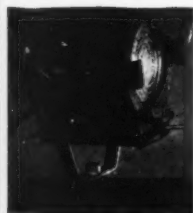
Open To	Subjects	Prizes	For copy of rules, write to	Contest closes
Anyone	Nature subjects; six classes.	\$15, \$10, \$5.	Hobbies Magazine, Buffalo Museum of Science, Buffalo, N. Y.	May 10
Anyone not connected with Braniff Airways	Views or activities indigenous to the territory served by Braniff Airways.	\$25 each for photos selected for photo murals, \$2 each for photos used for other purposes.	"Photomurals," Braniff Airways, Braniff Bldg., Oklahoma City, Okla.	May 10
All Amateur photographers	Children at work or play; animals being cared for in ways that allow them to lead a natural life—may be pets, wild animal life or birds.	\$40, \$25, \$10, and fifteen \$1 prizes.	American Humane Assn., 135 Washington Ave., Albany, N. Y.	June 15
Anyone	Pictures pertaining to coffee or tea.	Eight prizes, \$25 each.	Photo Contest Editor, The Spice Mill, 106 Water St., New York City.	July 15

SALONS

Closing Date	Name of Salon	For Entry Blank, Write to	Number of Prints and Entry Fee	
			6—one in each class	None
May 10	Second Annual Nature Salon (6 classes of subjects; three cash prizes)	Hobbies Magazine, Buffalo Museum of Science, Buffalo, N. Y.		
May 15	Ninth Detroit International Salon of Photography	The Detroit Institute of Arts, 5200 Woodward Ave., Detroit, Mich.	4	\$1.00
May 18	Sioux Falls First Annual Salon of Photography	A. S. Anderson, Salon Chairman, 230 S. Minnesota Ave., Sioux Falls, S. Dak.	4	\$1.00
June 8	First Annual All-Y. M. C. A. Salon	The Salon Committee, First Annual All-Y. M. C. A. Salon, 766 Main St., Worcester, Mass.	4	\$1.00
June 18	Third Annual Lititz Springs Salon	C. B. Workman, Secretary, Lititz Springs Camera Club, Lititz, Pa.	4	\$1.00

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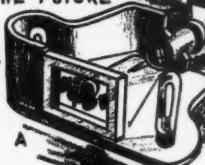
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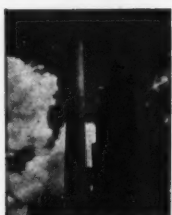
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Of all the things a photographer must combat, dust is the most insidious and annoying. Most enlargements bear the unmistakable signs of dust—a peppering of fine, white specks, which must be removed by tedious spotting.



If your prints show this defect, find out where the dust is coming from. If the darkroom is in the basement, it is probable that the furnace is the cause of the trouble. Ashes fly

around and settle almost everywhere. You will find them on top of the furnace pipes, on the walls, and on the ceiling. In most basements, the first-floor joists are exposed overhead, and form a most efficient dust catcher. When somebody starts shagging upstairs, dust falls all over the enlarger.

Obviously, the first thing to do is to clean the entire basement with a hose, a broom, and a vacuum cleaner. Walls, floor, and ceiling should be thoroughly cleaned and kept clean. If you have a coal furnace, wet down the coal bin with a hose. Don't let ashes accumulate. Clean off the ceiling beams in your darkroom, and cover them with wallboard or cardboard.

Another dust-maker is the cement floor so common to basements. Not only does it hold dust for your feet to stir up, but the leather soles of shoes wear the surface off the cement. The resulting dust is light and will get into everything. To combat this either wear rubber-soled shoes, or cover up the cement floor in the darkroom. Lay a wooden floor, or use some kind of floor covering.

Smoking sometimes causes dust in the darkroom. To prevent this, use an ashtray with



"I reckon it's time I got a new car—the documentary photographers have been snapping it."



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a little water in it, and keep the ash tray emptied.

Once you have found where the dust is coming from and taken steps to check it, the next step is to adopt a dust-routine for the darkroom. Start with the negatives. Keep them in a file where dust cannot reach them. Before making a print, wipe the negative with a piece of chamois moistened with carbon tetrachloride.

Next, clean the enlarger. If it has been covered (a pillow case makes a good covering), it will not contain must dust. Wipe the condensers lightly with a chamois; *lightly*, because brisk rubbing frequently generates static electricity in the glass which will attract dust from the atmosphere. Follow this by a careful cleaning of the negative holder. Dust off the front and back of the enlarging lens

with a soft camel's hair or sable brush. Wipe off the enlarging easel and all of the outside of the enlarger with a slightly damp cloth.

—Roland A. Browne.

Camera Plays the Piper

The camera plays the piper before the world's largest display window, 40 feet high, 40 feet wide, and 25 feet deep, at the Sears Roebuck



department store, Baltimore. More than 100 people with raised umbrellas stood before this window. At least 10 cars went by. Yet rain, flashing headlights, and 20 seconds of exposure helped the cameramen. The cars, the people, and the umbrellas vanished, leaving no blur to trace their exit from the picture. Taken with an f/6.3 lens, 20 seconds.

For the business paper photographer this window had something more than an artistic stage setting. So 25 prints went out to business papers interested in some special feature of it, in the United States, England, and Canada. The lighting, the materials of its construction, the departments in the store—all tied it up with markets having a special interest, all visualized in a few seconds as the photographer flashed by in a hurry to make a green light. We take many pictures for just one market, so it is the exception, and a rare one, to find one with this number of multiple markets.

—Wilfrid Redmond.

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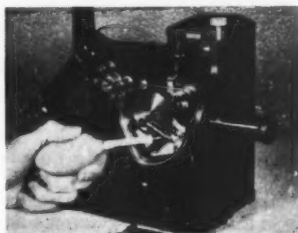
If your movie camera isn't equipped with a range finder, make a portable yardstick by bolting a metal fork to the handle of a discarded chisel and inserting a 100-foot reel, as shown, on which a 25-foot length of cloth tape is wound. Tension on the spool is furnished by pressure of a 2-inch length of spring



steel. The handle, bent from a 5-inch rod, permits rapid winding of the tape after the reading is taken. Even the professional studios use measuring tape for rechecking distances.—Ormal I. Sprungman.

Rubber Bulb Duster

The corner drugstore has just the gadget for removing dust and lint from camera or movie projector mechanisms—a rubber atomizer bulb normally used for nasal spraying. The thin shape of the neck permits working in close quarters, while the air puff is far more effective and safer than wiping the dusty surface with a coarse cloth. The bulb also is handy for blowing dust off color transparencies before mounting between glass.—Ormal I. Sprungman.



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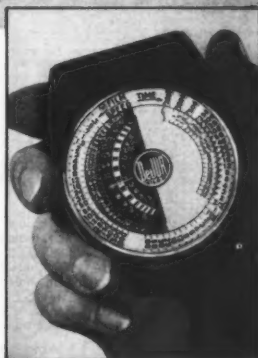
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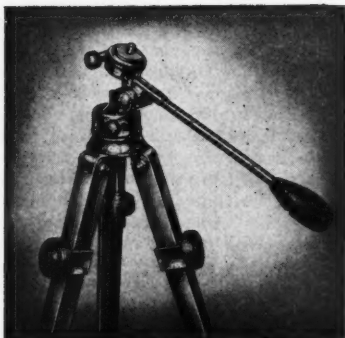


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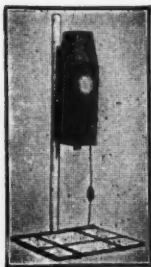


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By JAMES SHAFFER

PERHAPS you are one of that vast army who, at one time or another set out blithely to keep a diary—only to find it dry reading and give it up in a couple of weeks.

Illustrate it and pictures will give it new life and meaning. Since most minicamerists are seldom without their trusty weapons, it is a simple matter to record at least one passing event of the day's activities to be properly entered in your own, personal, illustrated history.

Normally we seek compositions to arouse imagination. For a diary, however, the desired subjects are to arouse and refresh our memories. Most shots are likely to be not so much artistic compositions as record shots, documentary pictures.

As you take each day's shots, jot down in a pocket notebook the necessary news data. About once a week, paste the pictures in your diary.

In this way, the minicam takes on a new and more exalted significance. Where before it was something to be used only on special occasions when you were actually out looking for 'unusual shots', the illustrated diary becomes an instrument for recording the unending panorama of life.

Don't keep your camera in your pocket waiting for the unusual. It isn't the odd or fantastic that makes up our daily lives. You might rave for a week or so over your unusual shot of the ferris wheel at the fair, but chances are in time to come you will cherish the off guard shot of the little newsboy who sells you your morning paper. If you will learn to look for it, something will happen every day that will make grist for your mill.

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The last word in efficient projection is revealed in an unique carrying case devised and built by Manly Jackson, superintendent of a Minneapolis artificial limb company, who utilizes his 8mm. movies in sales promotion.

Little larger than a traveling bag, the case houses a midget rolling desk screen, the projector, extension cord, complete editing outfit, and other accessories. One end of the case is double-hinged, the flaps folding down to expose the projector, mounted firmly in the case. The film is threaded and ready for immediate projection at the click of the switch. The projector is not removed from the case. In fact, the case serves as the tripod.

When Mr. Jackson calls on a busy client, he carries but one unit, housing all necessary equipment. It is simply a matter of seconds to unclasp the hinges, plug in the cord, set up the screen, and run off his movies. When his showing is concluded, he rolls up the screen, inserts it in its proper position in the case, coils up the extension cord and hinges the case, returning to his own office where he rewinds the film.—Ormal I. Sprungman.



Manly Jackson enters an office with his compact carryall housing 8mm. projector, films, screen and editing outfit. The unit was designed and built to permit quick screenings before busy clients without the usual delay in setting up equipment.

Ready in a few seconds for projection. The projector is mounted firmly in case and film is threaded ready for quick screening. A lower compartment in the case houses editing outfit, splicer, reels, extra lamp, and other equipment.



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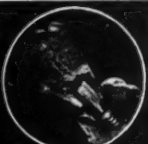


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Home-Made Stereoscopic Outfit

In Stereoscopic photography two separate photographs are made, one corresponding to the picture seen by the right eye and one seen by the left eye. Stereoscopic cameras do this by means of two matched lenses placed side by side about 2 1/2" apart, the normal separation of human eyes.

Stereoscopic pictures can be made without a special camera. A platform for "stereo head" to accommodate any camera can be made from plywood. The dimensions will vary according to the size of camera used. Figure 1 shows a half-vest-pocket size camera used on a tray approximately 4 1/2 by 7 inches. The tray with a hole bored in the bottom is held in place on the tripod by means of a nut which fits the tripod head screw.

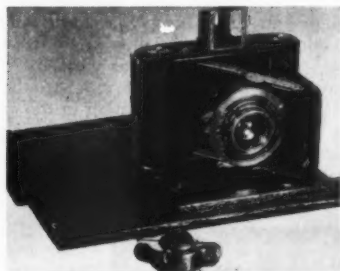


Fig. 1

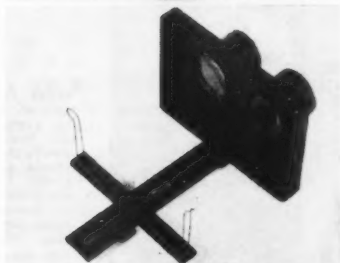


Fig. 2

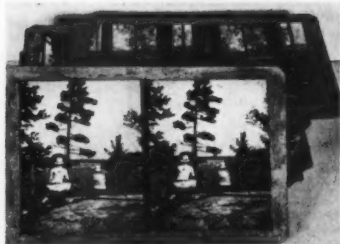


Fig. 3

CAMERA (top) on a platform or "stereo head". After one exposure is made with the camera in this position it is slid to the other end of the platform for the second exposure.

Fig. 1

A STEREO VIEWER (center) can be made from heavy cardboard, strips of cigar-box wood and a pair of magnifying glasses.

Fig. 2

PICTURES mounted for viewing in stereo viewer. Fig. 3

In use the camera is placed on one end of the tray, an exposure is made. The camera is then moved or slid to the opposite end of the tray and the second exposure made. The positions of the center of the lens should be $2\frac{1}{2}$ " apart. Care must be taken to see that the camera is moved horizontally only. To insure against an uneven alignment, wood stops should be nailed on each end and at the back of the tray. A cable release should be used as a further precaution against camera movement.

The two exposures are made with the same shutter speeds and stop openings and made as quickly as possible. If there are people in the picture, they must not move either during or between the two exposures. With a little practice the two pictures can be made in about six seconds or less.

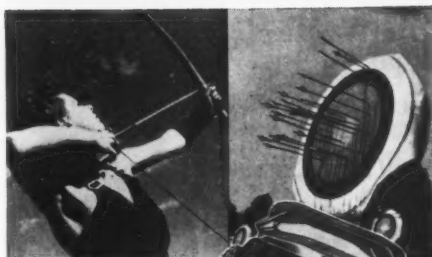
Figure 3 shows a mounted stereo picture. In mounting the prints it is necessary to see that the picture taken from the right side is mounted at the right of the card, and the one taken from the left side, at the left of the card. Whether contact prints or enlargements are to be used, a good size for the stereo prints is $2\frac{1}{2}$ by $3\frac{1}{2}$ inches. The height is not as important as the width which should be as close to $2\frac{1}{2}$ inches as possible, this being decided by the normal separation of the eyes. Any necessary cropping should be carefully done.

A viewer for the stereo pictures may be bought for a couple of dollars. However, if the amateur wishes to make his own, Figure 3 shows a simple one made from heavy cardboard and strips of cigar-box wood.

The lenses are dime store magnifiers, $1\frac{1}{2}$ inches in diameter, mounted in cardboard with a strong cement or iron glue. The lens centers should be $2\frac{1}{2}$ inches apart corresponding to the separation of the camera lenses. The card holder is adjustable, sliding in a groove, and the cards held by wires shaped to the ends of the cards.—George Carlson.



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NOT so good.

Next in order of painfulness is the Sam Browne style of wearing the camera, with strap side-foddlin' across the manly chest, over the neck and under the left arm. The objection here is that the strap itself advertises the camera concealed under the left arm—or maybe it might be a six-gun or "ottymatic" ready to do a little gangster stuff. The worst feature of this position is that the strap-cross-chest invariably pulls the shirt front awry if no vest is worn, and tangles up with anything that may be carried in the shirt pocket. If

a vest is worn, the garment is just as apt to be rumpled up and the pencil pocket likewise interfered with. This Sam Browne style does have a positive security in so far as slipping from the neck or shoulder, but I maintain the diagonal effect is anything but attractive. So—what to do?



BETTER. Rubber tape keeps strap from slipping.

By watching the mailman, I learned a camera may be slung over the left shoulder in the same style as the postman's

sack—and with almost positive assurance that the strap will not slip. With the strap adjusted so the camera is suspended just at or preferably a little above the waist line, the instrument is instantly available for quick action.

To keep the strap from slipping, just wrap the part of the strap that is in contact with the shoulder with a tight wrap-around of Rubber insulating tape such as electricians use. Electrical stores have it—it is not the friction tape or "tire tape" such as everyone knows, but a pure rubber tape without "stickum." It comes in rolls and is not expensive. A strip 20 to 40 inches long can be wrapped diagonally (with a stretch pull) around the camera strap (so that it laps over on itself slightly) for a space of 8 or 10 inches at the place where the strap naturally loops over the shoulder. That's all there is to it.

—Harry Keys Stormont.

For Auld Lang Syne



JUST for the folks—a personal remembrance—that was the purpose of this old style group portrait. It was fun to do; so much so in fact that laughter almost prevented our assuming that look of intense solemnity characteristic of the old head-brace portraiture!

No attempt was made to recreate exactly the portraits of some one period. If the result just looked old-fashioned, using the attic as properties department, that was asking enough! Hair-do for the women, and one blouse on backwards; for the men, shirt collars turned up, and a double fold in the neckties. A toy medal, an old sweater, a gold bracelet as a watch chain, and a stamp-sticker sponge for a button-hole piece rounded out the attire.

A dirty backdrop served as a background; faded wallpaper would have done as well. Studio daylight was approximated with a large single light source directed on the heads.

Single weight paper, toned sepia, was mounted on a buff show-card (about 3/16" thick). This was trimmed to the old size, 4 1/4" x 6 1/2", and the edges were then beveled and painted gold. The photographer's name in gold lettering below the print would have added authenticity.

The relatives apparently enjoyed the cards—almost as much as the originators.—John Mills, Jr.

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Being Critical

(Continued from page 61)

it, it would produce a more balanced picture and would serve to focus the eye on the girl's face rather than on the back of her head.



"Seaside." Speed Graphic camera, Agfa Plenachrome, f8, 1/25th second. Day overcast.

SEASIDE (above), which was taken from a cliff overlooking the ocean, would be an interesting picture if it were in focus. The photographer explains that it was impossible to bring both the waves and the foreground into focus, so he made a compromise and focused so that both waves and grass were discernible but not critically sharp. Wind was moving the grass so that it was not possible to use a slower shutter speed than 1/25 of a second which made a smaller diaphragm opening than f8 impossible under the lighting conditions which existed.

With the camera and film that the photographer was using a better result could not be obtained, for the limitations of a rocky shore made it impossible to move the camera position farther back from the grass and thus lengthen the effective field of focus. However, the advantage of being able to move farther from the subject could have been achieved by using a lens of shorter focal length. A 3½" lens if used instead of the 5½" lens would have made this picture possible. Another and perhaps easier way to solve this problem would be to use faster film. Super XX would have made a diaphragm opening of f22 sufficient at

the exposure of 1/25 of a second. This would have greatly increased the depth of focus.

CAMERA CLUB

NEWS AND IDEAS

NOW that the active camera club season is drawing to an end with the approach of summer, plan for special summer meetings to keep interest alive. One or two outings—to the nearest lake or seashore, park or zoo, with a picnic or get-together dinner afterwards, will help keep members on their toes.

EXHIBITS are obtainable from the following clubs for print nights and special showings:

The Fourth Virginia Salon, Virginia Museum of Fine Arts, Richmond, Va.

The Columbus Photographic Society, 413 East Broad St., Columbus, Ohio.

Rockford Camera Club of the Rockford Art Association, Rockford, Ill.

First Annual Bermuda Photographic Salon of the Bermuda Camera Club, Hamilton, Bermuda.

Sioux Falls Camera Club, J. W. Fox, secretary, 640 S. Main Ave., Sioux Falls, S. D.

NEW CLUBS:

Alameda Photographic Society, Alameda, Calif.

The Brownstown Camera Club, Brownstown, Ind.

The Twin Cities Camera Club, Monroe, La.

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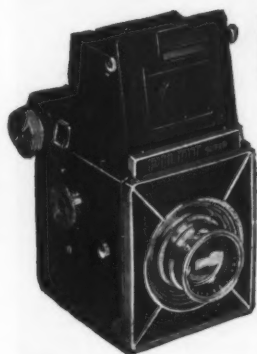
The Atlantic Camera Club, Box 3042, Cristobal, Canal Zone, c/o C. V. Russell, secretary.

Elm City Camera Club, 634 Congress Ave., New Haven, Conn., c/o Martin Dubord, president.

Snake River Valley Camera Club, Box 61, Ontario, Oregon, c/o Edwina Wetzel.

The Photographic Society of America has nearly 400 affiliated clubs, and soon will start an intensive drive to line up all clubs in the United States. Among the services rendered by the Society are the Print Interchange, the Loan Exhibit Service, the Foreign Travel Shows and the Continental Monthly Print Contest. Any club may obtain additional information from the Secretary at 10 Park Ave., New York City.

A "paper negative" competition was scheduled by the Gary Works Camera Club. Perhaps your club would welcome this, or other "processes," as occasional substitutes for the usual print subjects assigned. Appropriate demonstrations would then be of real value.



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Index to MINICAM

An index covering MINICAM Magazine, Volume 2, September, 1938, through August, 1939, is available at ten cents the copy; or free with a \$2.50 one year subscription or renewal.

MINICAM MAGAZINE

22 E. 12th St.

Cincinnati, Ohio

Behind the Newscamera

(Continued from page 78)

made to the Bluefield *Telegraph* editor to pick up his prints on the staffers' arrival, and portable transmitters which they had taken with them were soon wiring them to all parts of the country. Miss Douthot's pictures were a great scoop!

Since her graduation from the Louisiana State University School of Journalism, the scribe-picture shooter has worked for the Baton Rouge, La. *State Times* and the Bluefield *Telegraph*. She first took up photography only three years ago with the idea of illustrating her feature stories, but since that time has given more and more attention to her camera, although she says she prefers reporting. But once bitten, always bit, says the oracle, and the camera bug has taken a deep nip at Carol. She's already got one foot firmly planted in *News Photography's* Hall of Fame. Among recent stories she covered with pix were school bus tragedies at War, West Va. and in McDowell County, West Va., which killed seven and injured scores.

* * *

Old flashlight bulbs instead of the conventional rice were thrown when Roy Tulley, Chattanooga, Tenn., news photographer, and Miss Mildred Black were married there recently. Colleagues of Tulley had saved the bulbs from previous assignments. In a punning mood, one would call it a new way of "crashing" a wedding.

Picture of the Month

(Continued from page 66)

They have achieved a facade suitable to be presented to commiserative Royalty. No unexpected surge of water to the eyes will christen an uneasy hour in the lives of these living deities.

But they have forbearance. It is a mere child. In times to come she will learn a better understanding of her role. Who knows but in another decade she may have achieved the suitable smirk, the servile eyebrows with which to serve becomingly a father, a brother, or a son for an unimaginable, unpredictable end.

It is in the nature of news photography that its best examples are achieved accidentally. It does not happen often that humor or tragedy have a rendezvous with fate, and that such a meeting will take place with proper light for the benefit of

a passing cameraman. But it does happen, and, if the occasion is not momentous it may at least be memorable, as in this photograph.

Kamera Kwiz

(Continued from page 65)

ANSWERS TO KAMERA KWIZ

1. If the protective slide were not properly returned before the holder was removed from the camera, the film would be light-struck at one end, this portion would print white.

2. a. True. When using infra-red filters and film, the infra-red rays fall in a slightly different plane than do light rays from the full spectrum, resulting in slightly fuzzy negatives. It is good practice to focus in the usual manner, then rack the lens out an additional .2% to .3% of its focal length when using infra-red.

b. True.

c. False. Indoor Kodachrome is formulated to give correct color rendition under Mazda light which lacks blue. Its use outdoors, without the proper filter, would result in a bluish picture because of the great amount of blue present in sunlight.

d. False. The tone range of a negative is the number of tones which it can record. Stopping down will increase the depth of field, not the tone range.

3. b.

4. d.

5. a.

6. Stroboscopic effect. The scene is normally recorded on film sixteen times a second. If the wheels are turning exactly sixteen times a second they appear to be stationary. If they are turning more slowly, they appear to be moving backwards.

7. Usually dissolved in the hypo.

8. Shutter speed too slow. A comparatively high shutter speed (1/200 or faster) is necessary when using flash bulbs and focal plane shutters to insure an even illumination of the negative.

9. b. Over-exposure and over-development result in very dense negatives lacking contrast.

10. Use a heavy enough filter to bring the effective sensitivity of the film within the range of possible exposure.

Story Behind the Picture

(Continued from page 34)

An enlarged paper negative, 13"x16", was made on Dassonville Charcoal Black, Grade F. This was fully developed to a medium density. Dodging was required to



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keep the sky from becoming too dense and therefore too light on the contact prints. The sky was brightened behind the monument and a few of the wet surface reflections of the street were emphasized. Some of the details of the horse and carriage were brought out. Contact prints were made on Opal D, fully developed in D-52 and toned blue with gold chloride to give a cold effect. The print was waxed to increase the brilliance and sheen of the reflected highlights on the wet pavement.

No matter what its future history may be, it can never equal the drama of the early life of "Via Partenope, Naples."

\$\$\$ for Society Pictures

(Continued from page 44)

Make 5x7" or 8x10" prints on glossy paper and trim them so that the figures will be as large as possible. No society editor wants much background—it's the face and the name that interests him.

Marketing

A query letter not only saves you the time of preparing an article and a set of enlargements, but it also gives you an introduction to the editor, who will be on the look-out for the finished product if he has given you an encouraging reply. A query letter which I have found successful follows:

Mr. John Smith,
Society Magazine,
St.,

New York City

Dear Mr. Smith:

Would Society Magazine be interested in seeing a set of photographs on the ———— Hunt Meeting to be held in our city during the last two days of this month?

This event, an annual affair, is the high point of our social season, and will be attended by the socially prominent members of this community, both as participants and spectators. These photographs will include the actual events as well as prints showing groups of bystanders, and if you prefer, a short write-up can also be included pointing out the highlights of the occasion.

Of course, I realize that you cannot purchase an article or photographs which you have not seen. Should you be interested, however, I shall be glad to submit the material on a speculative basis.

Very truly yours,
Signature

If the editor is interested he will often make suggestions concerning the number of prints he can use, whether or not he wishes an accompanying article, and if so, how many words.

If he asks for six prints, send him a dozen, so that he will have a choice. If he asks for a thousand words, give him the best thousand words you can write. Follow his instructions implicitly (with the exception of additional pictures) and above all, study his publication beforehand so that you can slant your material. Do not try to be original, especially on the first submission.

Enclose a self-addressed, stamped envelope, with the query letter and also with the finished product. Include information about the copyright status of the photographs, whether they have been used before (and where) and whether or not all are your own work. If they were made by another photographer, it is advisable to include a release from the negative owner. These are minor points, but the important thing in free-lance marketing is to develop the editor's confidence in your work, for it is the repeat business that will either make you a success or a failure as a free-lance photographer.

Society picture markets are divided into three classes: the slick-paper national magazines, the local magazines, and newspapers. The national magazines are hard to crack, but pay upwards from fifty dollars per page. Study these carefully, advertisements and all, before submitting material. This group includes *Town and Country* and *Country Life*, among others.

Nearly every city of one hundred thousand or more has a society magazine devoted to the activities of its own "Four Hundred." These magazines are continually on the lookout for pictures showing members of local society at play, and although they do not pay as well as the first group, most of them do not have staff photographers and are an excellent field for the beginner.

50¢ SPECIAL
"Get acquainted" Price
For RAY-DEL DEVELOPER

Just think of it! A full-size package of this fine grain developer . . . enough to make a full quart for developing 15 rolls of film — at the amazingly low price of 50¢!

RAY-DEL is scientifically balanced and automatically controls the widest range of under and over exposure. It is non-staining . . . and requires no re-energizing.

AT LEADING DEALERS

Send for your copy of the book "Successful Negative Processing." Enclose 5¢ to cover cost of postage and mailing.

RAYGRAM CORP.
 425 FOURTH AVE. NEW YORK CITY



DOLLINA "O"

the low-cost 35 mm. favorite!



Here's the fast-selling miniature that provides everything necessary for candid and color shots . . . and does it at a sensible price. Has automatic counting and film locking device . . . built-in optical tubular view finder . . . front lens focusing to 4 ft. . . attached range finder clip . . . closed front . . . loops for neckstrap . . . genuine leather cover and bellows, and many other features. A streamlined camera that really fits the pocket, and is a cinch to use. Makes 36 exposures on 35mm. cartridge type film.

With **Certar f/4.5 lens** in Vario type shutter (speeds: 1/25, 1/50, 1/100 sec., bulb and time), lists at only . . . **\$19.90**

With **Certar Anastigmat f/2.8 lens** in Compur "B" shutter with speeds up to 1/300 sec., and convenient body shutter release. **\$38.50**

See it at your dealer's, or write for catalog.

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YOU HAVE A DATE ON MAY 25th

With your Dealer
to see the New
1940

**MENDELSONN SPEEDGUNS
and SUPER SPEEDGUNS**

... or write to us
for more details!

S. MENDELSONN

202 East 44th Street

New York City

35MM FILMS
FINE-GRAIN PROCESSED
ONLY \$1.00

36 Exposure rolls fine grain developed and each good negative enlarged to approximately 3½x4½ inches. Beautiful bright prints, fine quality on single weight glossy paper \$1.00. Double weight portrait paper \$1.50. Quick satisfactory one-day service. Free Mailing Bags.
MINICAM PHOTO LABS, Dept. 30, La Crosse, Wis.

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B U Y S !
M O G U L L ' S**
67 West 48th
(Radio City)
New York, N. Y.

IHAGEE-REFLEX (4x6) 6½" Tessar, \$65; GRAFLEX (3¼x4¼), KA f:4.5, \$49.50; PRIMA-FLEX, Tessar f:3.5, \$95; ZECA 9x12cm, f:4.5, \$35; Voigtlander 120, f:4.5 \$17.50; B&H 8mm camera, f:3.5, \$35; 8mm proj., \$75; 16mm (Model 75) camera, \$35. **MONTHLY TERMS** ARRANGED. Nation-wide Sound-Silent Film Library.

FREE Request new BARGAINS

35MM. POSITIVE TRANSPARENCIES

1 strip 36 exposures 35c
3 rolls \$1.00; 6 rolls \$1.75

From your 35 MM negative, we will print 35 MM positives from which you may make brilliant 2"x2" slides, or which you may project in a continuous film strip projector. We will return your negative, with the positive strip. Time and temperature fine grain developing of 35 MM negatives—38c per roll 36 exposures—orders of 12 and film—60c each...
Positive Print Co., 129 N. Wood Ave., Linden, N. J.

You too

WILL GET THIS EFFECT
USING H.C.E. COMBINATION
LENS-SHADE, FILTER & HOLDER

\$2.50 UP 125 TYPES

You'll be satisfied
with the professional effects. Puts
Clarity—Quality—Snap into your
pictures.

Write Direct—If Your Dealer Cannot Supply You
HOLLYWOOD CAMERA EXCHANGE LTD.
1600 Cahuenga • Hollywood, Calif.

EVERYTHING PHOTOGRAPHIC AND CINEMATIC

Third in the marketing list are the newspapers. Seldom does a sporting event warrant sending a full-time staff photographer on the assignment. Perhaps there will be a staff man on the grounds at football games, hockey matches, etc., but he will be there to cover the actual contest for the sports page of his daily. The free-lance photographer, therefore, should cover the celebrities.

Many Sunday papers include a society section. Copy for this should be in the hands of the society editors before Friday noon—while photographs should be submitted a day earlier. The remuneration from the newspaper field is smaller than that from the national magazines, but it will pay you for your time, film, and incidental expenses. Often, if you are working in a secondary city the leading state newspaper will be interested also in pictures of your home-town society. This is especially true of such newspapers as the *Denver Post* which has a statewide circulation. The free-lance photographer has an excellent opportunity in a state-wide paper of this type.

If you can picture socially prominent people occupied pleasantly without duplicating what has already been done, you have what the society editor wants.



"It's certainly lucky you thought to bring the Changing Bag, John!"

Book Reviews

CAMERA, TAKE THE STAND. By Asa Herzog and A. J. Ezickson. \$3.00. 249 pp. Published by Prentice-Hall, Inc.

They're taking the camera into the law courts now, and the evidence of photographs is certain to carry more weight than that of an eyewitness. Asa Herzog, well-known New York lawyer, and A. J. Ezickson, one of the editors of the *New York Times* Wide World Pictures, have collaborated on a book which opens up an entirely new field for photography. Mr. Ezickson writes the column in *MINICAM*, "Behind the News Camera."

"Camera, Take the Stand," demonstrates how the camera has become a useful crime-detecting tool. In a popular style, the authors show how the camera is used in trapping criminals. There are plenty of photographs and explanations of just how the camera can be used in fingerprinting, in enlarging clues so that they can be identified, and in detecting forgeries.

THE PENROSE ANNUAL (1940), Review of the Graphic Arts, edited by R. B. Fishenden, M. Sc. (Tech.) F. R. P. S. Lund, Humphries & Co., London, publishers.

This annual which is welcomed every year by art directors, editors and everyone interested in publishing, is up to its usual high standard, despite war conditions abroad.

The general articles, by well-known authors, include "Picture Post," by Edward Hulton; "Continental Magazines," by Bertram Evans; "Men's Fashions," by Ashley Havinden, and "Advertising Presentation," by Fred A. Horn. Packaging is dealt with by Milner Gray and Charles Rosner. New developments in discharge lamps for projection are described by J. N. Aldington. All of the articles are profusely illustrated.

FLASH! SEEING THE UNSEEN BY ULTRA-HIGH SPEED PHOTOGRAPHY. By Harold E. Edgerton and James R. Killian. \$3.00. Hale, Cushman & Flint, publishers.

Doctor Edgerton has been working with his stroboscope for fifteen years in order to bring his apparatus to a high state of perfection. He has taken thousands of pictures, the best of which are included in the book. It is practically a salon of ultra-high speed photography.

Flash takes us into a new world in which we can see what happens when a bullet passes through a light bulb or when a drop of milk hits a plate. A humming bird, whose wings normally beat sixty to seventy times a second, are stopped for the first time. Included are not only the photographic results, but also a description of the stroboscope light unit.

Bass says:

Dunking my favorite emulsion in my special fine grain D 72-76-12-777 soup, I am wont, as I watch the latent image appear, to compare it to the delightful things that come to view as a new customer enters my lair here at the Camera Cross Roads of the World. A very apt comparison, if I say so myself. Except, of course, that here the customer is never disappointed . . . but if he should be, back goes his money with a genuine smile.



For them that can't enter my sacred portals we have a free catalog of still cameras.

Bass Bargaingram No. 242

and for the Movie addicts

Bass Bargaingram No. 240

Pardon the pun, but Paine wrote that these are times that try men's souls . . . especially if you want a new (or perhaps used).

LEICA OR CONTAX

But leave it to our entrepreneur C. Bass to have ample stocks. Write him in delightful detail of your wants . . . he has ALL the answers.

Dept. MM

Bass CAMERA CO.
170 W. MADISON ST.
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**35MM
FILMS**

**DEVELOPED
& ENLARGED**

\$1.00

Wrap a dollar bill around your 36-exposure roll and let us show you a really good job of fine grain developing, with each good exposure enlarged to 3 1/4 x 4 1/2. All for only \$1.00. Regular 6 or 8 exposure films with 2 enlargements. **25c**

One Day Service. Send for Free Mailing Bags.
UNIVERSAL PHOTO SERVICE Box 612-B, La Crosse, Wis.

PRINT COLOR!

FROM TRANSPARENCIES

ANNOUNCING A NEW SERVICE OFFERED BY FOTOSHOP'S COLOR DEPT. TRANSPARENCY SEPARATIONS. LET FOTOSHOP make Balanced 3-color separation negatives from your transparencies. Line voltage control and E. E. Denitometer check. \$1.00 per set, contact up to 4x5; \$1.50 per set enlarged up to 4x5.

FOTOSHOP, INC. 18 E. 42nd St., Dept. M8
NEW YORK, N. Y.

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SCHIEBE'S GRADUATED FILTERS
 ALSO FOG SCENES, DIFFUSED FOCUS AND OTHER EFFECTS
USED ALL OVER THE WORLD

**SINCE
1916**

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A Wise Investment!

OPTOCHROM

precision ground FILTERS

in shades and colors
to meet every need

It pays to complement your lens with good filters. Optochrom filters are made to the highest standards . . . from glass dyed in the mass and ground and polished on precision equipment. Then spectroscopically tested before shipment. Supplied with bakelite cases, and holders to fit the following (mm.) lens diameters:

Yellow, Univ. Green,	19-21	22-24	25-28	29-33	34-38	39-43
Red or Blue Filters.....	\$2.15	\$2.40	\$2.40	\$2.75	\$3.00	\$3.50
U. V. or Reform.....	2.75	3.00	3.00	3.50	4.25	\$5.50

Special Optochrom Filters. In bakelite cases:

Exactly Fitting Lenses of These Diameters	Yellow Universal, Green, Red or Blue Filters	Ultra-Violet and Graded Filters
27.0 mm.....	\$2.40	\$3.00
28.5 mm.....	\$2.75	\$3.50
29.1 mm.....	\$2.75	\$3.50
32.0 mm.....	\$2.75	\$3.50
36.0 mm.....	\$3.00	\$4.25
37.0 mm.....	\$3.00	\$4.25
42.0 mm.....	\$3.50	\$5.50

Optochrom filters are sold by dealers everywhere.

BURLEIGH PHOTO GOODS INC.
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Goodspeed for flash

• Double-acting socket "auto-focuses" compact reflector to every size bulb. Tiny metal heavy-duty synchronizer contains built-in "pressure-control". \$15 complete. Postcard brings booklet.

Goodspeed, Inc.
220 Fifth Ave., New York



"NEGATIVE 35MM. NEGATIVE"

DUPONT SUPERIOR.....	25¢ Can
DUPONT TYPE Nos. 1-2-3.....	\$1.00
AGFA ULTRA SPEED.....	Postpaid
AGFA SUPREME.....	Guaranteed
AGFA PLENACHROME.....	Fresh
EASTMAN PLUS X.....	Prompt
	Deliveries.

Send for free book of genuine lens paper and film ratings.

ANACONDA FILM COMPANY, KATONAH, N. Y.

CAMERA REPAIRING
BELLOWS MADE TO ORDER
SHUTTERS REPAIRED

We make Bellows to order—Any size
Fit all Standard Cameras
All makes Shuttles repaired by experts
Lowest Prices
Write!

UNITED CAMERA COMPANY, INC.
1515 BELMONT AVE. DEPT. H CHICAGO, ILL.

Photography

TRADE NEWS

Argus Twin-Lens Reflex

The Argoflex Model E (\$35.00), the long awaited American-made twin-lens reflex camera has 75 mm. color-corrected triple anastigmats, one for focusing and one



the taking lens. Shutter speeds run from 1/10 to 1/200 second and time and bulb. A built-in magnifying glass permits easy focusing of small details on the square ground glass focusing screen. For quick work a depth-of-focus scale and a direct vision finder are provided. Built-in sunshades on both lenses give better visibility under "into-the-light" shots.

The Argoflex uses either type of roll film spool: "thick spool" Eastman 120, Agfa B2 or "thin spool" Eastman 620, Agfa PB20. Picture size is the popular

2 1/4 x 2 1/4" that gets twelve pictures to the roll. Cowhide carrying case (\$5.00) is an accessory.

More information and a chance to look the camera over is at Argus dealers.

Superpan Supreme Packs Reduced

New, low prices on Agfa Superpan Supreme Film Packs are as follows:

Agfa No.	Size	New List
F-20	2 1/4 x 3 1/4" (6x9 cm)	\$.70
F-18	3 1/4 x 4 1/4" (8x10.5 cm)	1.20
F-41	3 1/2 x 4 1/4" (9x12 cm)	1.30
F-23	4 x 5" (10x12.5 cm)	1.40
F-15	5 x 7" (13x18 cm)	2.40

Booklet on Agfa Papers

"Agfa Papers, Their Properties, Processing and Applications," a 48-page illustrated booklet (15c), contains information on types of paper, paper surfaces, selection of contrast grade, developing conditions, and toning. Copies from photographic dealers or by writing Agfa Ansco, Binghamton, N. Y.

Agfa Matte White Cykora

Matte White is now available in three grades of contrast in both Cykora and Cykon emulsions. It is a neutral white paper with a smooth surface without sheen or texture.

New Dinky Inkie Accessories

"Snoots" (light shades) in two sizes and a diffuser frame with Fiberglas matt diffuser are now made to fit Bardwell & McAlister's Dinky Inkie 150-watt spotlight. These accessories fit into clips on the front of the light. There is also an adapter that fastens the Dinky Inkie on a music stand tripod. Eastman Kodak Stores or camera shops selling the Dinky Inkie can supply these accessories.

Fiberglas Diffusers

Fiberglas diffusing material, used to produce a soft even light suitable for portraits, can be bought in two thicknesses at \$2.00 per linear yard. No. 1 (heavy) is 36-inches wide. No. 2 (thin) is 24-inches wide. Fiberglas does not discolor from heat. Stores handling the Dinky Inkie spotlight can supply this material.

Free Lance Photographer's School

A free "Print Analysis Chart" is offered by the Free Lance Photographers Guild School of Photography, 250 W. 57th St., New York City. Twenty common faults are listed and after each are suggestions for overcoming them.

J. F. Hemment, A. J. Lockrey, Victor DePalma, Bill Karsten and Arthur Brackman are on this new school's faculty. Send inquiries about courses and requests for chart to above address.

Shekell Dean at New York Institute

Thomas O. Shekell, a leading pictorial photographer, has been appointed Dean of the New York Institute of Photography. Information on Resident and Home Study courses may be obtained by writing Dean T. O. Shekell, New York Institute of Photography, 10 West 33rd St., New York City.

Industrial Photographs

"Photographs, their uses in Industrial Advertising and directions for taking them," is the title of a report issued by the National Industrial Advertisers' Association, Inc., 100 E. Ohio St., Chicago, Ill. Illustrations of the right and wrong ways to finish, illuminate, and photograph some types of machines, the angles to choose, and general directions for taking this kind of picture are given in the four-page folder. Copies of the folder may be obtained from the above address for 25c each.

Peerless Transparent Water Colors

Claimed to mix perfectly on a non-absorbent surface, china or glass, Peerless water colors are said not to mix after being applied to a gelatine surface. This permits the colorist to superimpose several tints on one photograph. Instructions and a Trial Edition booklet of 15 colors (45c) is obtainable from dealers or from Peerless Color Laboratories, 11-13 Diamond Place, Rochester, N. Y.

Caron Color Process

Caron Color Kits, 4x5" kit (\$1.00), 5x7" kit (\$2.00) for making natural color prints can be obtained from Spectra Photo Products, Inc., 7650 Second Blvd., Detroit, Mich.



"Did I shoot the spy? Sure, and I'm going to develop the negative as soon as I'm off duty!"



EMPIRE FILTERS

Optical Glass

Made in U. S. these fine filters have all the advantages of imported filters, Plano-Parallel, Non-Distorting, Solid Glass, Fadeproof, Uniform in color and size. Colors—yellow, orange, red and green.

31.5 mm. \$1.50 — 39 mm. \$2.00

EMPIRE SUNSHADE

and Filter Holder

Two piece construction of strong satin finished duraluminum. Lined with black felt to kill glare. Maximum shade with full angular clearance. Filters can be changed quickly. Adapter rings supplied.

Lens Diam.	Price	Lens Diam.	Price
Take 31.5 mm. Filter		Take 39 mm. Filter	
32 mm.	\$2.25	37 mm.	\$3.25
36 mm.	2.25	39 mm.	3.25
Rolleiflex Bayonet ...	2.50	42 mm.	3.25

Ask your dealer, or direct from

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15 West 47 Street New York City
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35MM. RELOADED CARTRIDGES

(36 Exposure)

AGFA	EASTMAN	DUPONT
Supreme	Par Pan	Superior
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Infra Red	Super X	Positive
Positive	Plus X	
	Super XX	

YOUR CHOICE 3 for \$1.00
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NATIONAL FILM COMPANY

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EXCLUSIVE ITEMS

NO-HEAT GLASS

Protects negatives from heat in Enlarger or Projector at.....35c up

DESENSIT

DESENSITIZES Fastest Film. Develop in bright light50c

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35 MM FILM FINE GRAIN
DEVELOPED AND ENLARGED \$

Any 36 exposure roll of film fine grain processed and each good negative enlarged to approximately 3" x 4" on single weight glossy paper for only \$1.00. Simply wrap a \$1 bill around your roll of film (or send C.O.D. plus postage) and mail today. We'll send your prints to you without delay.

MINILABS

DEPT 3E

Box 485 MADISON SQUARE P.O. NEW YORK, N.Y.

35mm CAMERA USERS

"LOAD YOUR OWN FILM"

Guaranteed Negative—Stock Up Now!!

EASTMAN SUPER X... } 25 ft. \$1.00
EASTMAN PLUS X.... } 100 ft. \$3.75
DUPONT SUPERIOR... }

EASTMAN SUPER XX } 25 ft. \$1.25
EASTMAN PANATOMIC X. } 100 ft. \$4.75

These prices include postage paid U.S.A. Specify type of film and quantity desired. 25 ft. minimum order.

CAMERA EQUIPMENT CO.
1602 BROADWAY NEW YORK CITY



JACKSON

CONTACT PRINTER

Simple, complete, compact, all metal. Has features never before offered except in highest priced professional equipment. Makes sharp, brilliant prints. Negatives from 35mm. to 4x5. Adjustable masking device. Double hinged pressure plate with rubber pads. Built in "Safe Light". Green indicator flashes on during printing period. Furnished complete with lamps installed—ready to use. Guaranteed.

\$6.50 West of Rocky Mts. Guaranteed. Buy at your dealer's or order direct. The Jackson Instrument Co., 134 Wayne Ave., Dayton, O.

FINE QUALITY PHOTOGRAPHIC COLOR PRINTS

from color transparencies, made by the Eastman wash-off method, color corrected.

4 x 5 \$3.75 5 x 7 \$5.00 8 x 10 \$7.50

*Re-prints

*Lots of 5

\$3.75

Re-prints

\$1.50 each

*Lots of 5

\$5.00

Re-prints

\$2.00 each

*Lots of 5

\$7.50

*Must be ordered with first print in 4x5 size, only 35mm. Color film accepted.

Prints are brilliant in color, semi-matte finish, salon mounted. Delivery ten days. Send cash with order or we ship C.O.D. Satisfaction guaranteed.

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NATURAL COLOR CORP.

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35mm FILM
ultra FINE GRAIN DEVELOPED
AND VAPORATE TREATED
for your future protection

25¢ PER ROLL

DEVELOPING • VAPORATE &
PRINTS IN CONTINUOUS STRIP
18 Exp. Roll 40c • 36 Exp. Roll 50c
DEVELOPING • VAPORATE AND
3 1/4" x 4 1/4" GLOSSY ENLARGEMENTS
18 Exp. Roll 75c • 36 Exp. Roll 1.00

Single Frame • Memo • Univex film enlarged to 2 1/2" x 3 1/2"

Please Remit With Order To Save C.O.D. Charges

DEVELOPIX
Hulton Bldg. New York N.Y.

Mansfield Color Print Process

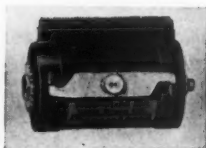
"Color Prints that You Can Make," an instruction sheet telling how to convert black and white prints into multi-toned prints resembling color prints, and a trial sample set of four toners (35c), with complete instructions are offered by the Mansfield Photo Research Laboratories, 701 S. LaSalle St., Chicago, Ill.

Color Demonstrations

Five color photography demonstrations: (1) Technique of color photography with a one-shot camera, (2) Color separation negatives, (3) Carbro, (4) Wash-off relief, and (5) Chromatone process are announced by the Color Institute in the Fotoshop Building, 18 East 42nd St., New York City. The schedule of demonstrations and a ticket to one of them may be obtained free by writing to the Fotoshop. Enclose a self-addressed envelope. Tickets for the complete series cost \$2.00.

Photographers are invited to submit their color problems to Fotoshops Color Photography Department. Address inquiries to Director, Color Institute, at above address.

New Univex Cartridge



A new type of swing gate lock on the daylight loading cartridge (60c) designed for the Univex Mercury camera makes loading easy. Any 35 mm. bulk film can be loaded. The cartridge fits daylight film loaders. For details write: Univex Camera Corp., 28-30 W. 23rd St., New York, N. Y.

Abe Cohen's New Midtown Store

Abe Cohen's Exchange has opened a new midtown store at 336 Madison Ave., New York City. The new store has a reading room with latest photographic books and magazines for the use of patrons. In addition there is a photographic studio with complete lighting equipment, projection rooms, a darkroom, a color photography department supervised by a color expert, operating displays of enlargers and lighting equipment, and a permanent print exhibition.

Chardelle's Meteor-Flash

The Meteor-Flash (\$9.95), a precision-manufactured mechanical synchronizer, has an automatic retractable safety plunger that permits the flash gun to be set for the next exposure before the shutter is set and vice-versa. Accessories are four and eight-foot cables, a connector block for multiple flash, clamp tripods to hold the camera or additional flash units, and brackets to fit different cameras. For complete details write: Chardelle, Inc., 10 East 40th St., New York City.

Fast Three-Inch Projection Lens

The B. & H. 3-inch f/2 Ince-Lite projection lens at a distance of 48 feet shows a picture the same size as thrown by a 2-inch lens at 32 feet, filling a 6-ft. screen. For further information write to Bell & Howell Co., 1801 Larchmont Ave., Chicago, Ill.

Gevaert 16 mm. Film

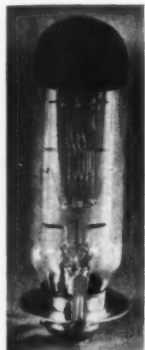
Gevaert 16 mm. Panchro Microgran Reversal and Ortho Reversal in 200-ft. lab-packed reels is now listed at \$6.00, processing not included.

New Baltar Lens

Designed for professional motion picture photography, Bausch & Lomb's new Baltar lens is being used by Twentieth Century-Fox, Paramount, and Universal studios. Baltar lenses are made in eight focal lengths, 25, 30, 35, 40, 50, 75, 100, and 132 mm. The speed is f/2.3 except the 132 mm. which is f/2.7. All are mounted in barrels provided with an iris that closes completely except the 25 mm. and 30 mm. lenses which close to f/16. For further information, write Bausch & Lomb Optical Co., Rochester, N. Y.

MINICAM Contest

Winners in MINICAM Magazine's "KEY PICTURE CONTEST" will be announced next month.



Black Top Projection Lamp

Eliminating the metal lamp cap used on lamps supplied by B&H for Filmo projectors, the new B&H projection lamps are coated with opaque black at the top of the bulb. When lamps now in use are replaced by the new type, the lamp cap should not be used. Further information from Bell & Howell Co., 1801 Larchmont Ave., Chicago, Ill.

Zoom Titler

The Title-Master with Reverso kit (\$7.95) has a "zooming" feature, brass rods sliding in brass sleeves, that permits the amateur to make receding titles. The Reverso kit contains photographic backgrounds for titles. For further information write: Fabko Products Co., 704 N. Curson Ave., Hollywood, Calif.

Craftsmen's Guild Projector

Taking 35 mm. transparencies mounted in two-inch slides, either color or black and white, the Craftsmen's Guild Projector (\$27.50) complete with carrying case offers the following features: (1) extremely accurate focusing of projection lens, (2) ball bearing slide feed, taking slides of any thickness, (3) heat absorbing filter in condensing lens system to protect films, (4) cast aluminum body, (5) carrying case with slide compartment that holds 96 glass slides or 200 cardboard slides, and (6) 4-inch objective lens. This projector uses 100-watt projection lamp, 115 volt, AC or DC. Made by Craftsmen's Guild, 1640 W. Washington Blvd., Los Angeles, Calif.

New SVE Projector

The new 150-watt SVE Projector Model DK (\$39.50), for 2 x 2" glass slides only, has a patented vertical slide changer. Although said to give greater illumination than most 200-watt projectors, a special heat ray filter reduces heat at the aperture, fully protecting films. The semi-automatic slide changer operates from the top and light is cut off during each slide change. For further details write Society for Visual Education, Inc., Chicago, Ill.

New B & L Projector

Bausch & Lomb's new 2x2" Slide Projector (\$35.00) and case (\$5.00) is said to give increased light efficiency. The optical system has a triple lens condenser, one lens of heat absorbing glass, and a 5-inch f/3.8 Cinephor projection lens. Slide temperature is kept low enough to protect films. The slide carrier has spring tension to permit use of cardboard, metal, or glass mounted slides and hold these perpendicular to the optical axis, insuring correct focus over entire area. The instrument is of die cast alloy construction.

Covers for Big Enlargers

The Giant Enlarger Cover (\$1.50) is made of heavy weight Goodyear Pliofilm and measures 32"x42". It will cover the larger Eastman, Elwood, Simmons-Omega, Sunray, etc., machines. A still larger size will be made on order. For further details write: L. R. Biber Co., Times Bldg., New York City.

Fedco Tank Correction

The new Fedco Tank (\$1.85) is not furnished with a combination thermometer-agitator. Agitator is supplied.

national
TARGET & SUPPLY CO.



New Illustrated CAMERA CATALOG

Complete listings of latest models with lowest prices. And nowhere else will you find more generous terms. Get this free catalog and save while you get that camera you want.

The popular National Time payment plan fully described. Write today.

10% Down 10% Monthly Buys Any Camera

NATIONAL TARGET & SUPPLY CO.

Y-30, 1255 25th ST., N. W., WASH., D. C.



GORGEOUS STUDIES OF AMERICA'S MOST BEAUTIFUL GIRLS

Original nudes and studies of feminine beauty by world famous ROLF ARMSTRONG sell for thousands of dollars. NOW you can own 35mm. color transparencies of selected Armstrong paintings for only 50¢ each—or you can secure actual 8x10 photographs (suitable for hand coloring) for only 25¢ each.

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Information Service

Morris Germain, A. R. P. S., now with the Penn. Camera Exchange, 126 W. 32nd St., New York, N. Y., assists camera fans with their technical problems. Photographers may consult him without obligation. Lecture demonstrations are given frequently. Write for free tickets.



Projection Lens

For projecting unusually large pictures or screening in partly darkened rooms during daylight, the new Bell & Howell 1-inch $f/1.6$ anastigmat lens fits all Filmo 8 mm. projectors. Further details from Bell & Howell Co., 1801 Larchmont Ave., Chicago, Ill.

"Life Class"

A class in Photography of the human figure is offered by G. L. Briem at the Institute at the Academy of Music, 30 LaFayette Ave., Brooklyn, N. Y.

Photo Utilities Booklets

New Film Speed Ratings (10c in stamps) for all popular films introduced before March 1, 1940, are shown on a comparison table compiled by Photo Utilities, Inc., 10 West 33rd St., New York, N. Y. The comparison of the different systems of speed rating have been extended to 38° Scheiner, 800 Weston and 4000 Eastman speed numbers. An Exposure Manual (25c) and a new 16-page Utilo filter booklet (10c in stamps) printed in six colors and containing general filter information as well as specific filter factors for Eastman, Agfa, and Gevaert materials are also available.

Color Print Equipment

Two new Density Contrast Meters give densitometer control of 3-color separation negatives that eliminates complicated calculation. One uses a Weston meter as a reading unit (\$20.00); the second has a photocell unit $2\frac{1}{2}$ times as sensitive as the first and with 25% more range (\$32.50) complete in walnut carrying case. Both models have specially calibrated simplified reading scales.

A method of Wash-off Relief printing, the Condar Color System, Dytrol dyes and transfer paper is said to give three-color transfers in seven to ten minutes without heat or pressure, no bleeding of color, complete transfer (no residual stain left in matrices), high spectral purity, and permanency. The dyes must be used with the specially mordanted paper and one quart of dye makes 25 to 40 prints, 11×14 .

The new bulletin on Color Photography describing these items and many others is free. Write FotoShop, Inc., Dept. A-5, 18 East 42nd Street, New York City.

Contest Winner

"War Mongers." Awarded highest honors in an exhibition by adult students of photography, New York University. Leica camera, Panatomic X, $f/6.3$, $1/10$ th



second (on tripod), Developer DK 20, Ilustro paper, Developer Quinolin. By A. G. Strahlendorf.

Ray-Del Winners

Raygram Corp. announces the winners of the RAY-DEL Developer Contest for photographs illustrating "balance." The contest was open to all photographers submitting prints made from negatives developed in RAY-DEL.



1st Prize—\$50.00, Nathaniel Field, Brooklyn, N. Y.



2nd Prize—\$25.00, Joseph Janney Steinmetz, Philadelphia, Pa.

Paragon Photo-Wet

The best processing of films and papers requires that the solutions should thoroughly and uniformly wet and penetrate the emulsion in a reasonably short time. A chemical that hastens this action is known as a "wetting agent." For photographic use the wetting agent must not react with the ingredients of the photographic solutions nor change their acidity or alkalinity. It should be non-staining, non-toxic, inexpensive, and easy to use. Paragon Photo-Wet is said to fulfill these requirements producing films and prints that are cleaner and easier to wash. 100 cc. Photo-wet (\$1.10 postpaid or \$1.00 at dealers) will treat 200 quarts of photographic solutions. Bulletin sent free, write: Paragon Testing Laboratories, Orange, N. J.

Rollei Contest Delayed

War conditions have necessitated a delay in closing and judging the Rollei International Contest, originally scheduled to close early in January.

Burleigh Brooks, Inc., American distributors for Rollei equipment, report that all entries from this country were safely received abroad and that all contestants will be promptly advised of the results as soon as word is received from the manufacturer.



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Etc.	30 to 50
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Schools Class-rooms	30
Fine Office Work, Drafting Rooms, Etc.	50
Fine Manufacturing, Inspection, Etc.	

For further data write to: DeJur-Amsco Corp., Shelton, Conn.



Cine and Still Exposure Meter

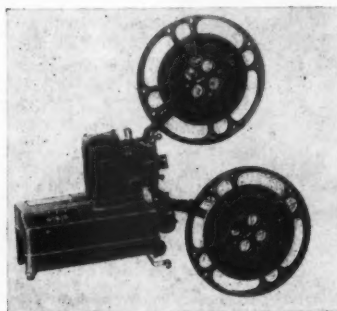
The new Durex Exposure Meter (\$2.25), manufactured by the Durex Mfg. Corp., 19 W. 3rd St., New York City, is of the extinction type and constructed for both cine and still photography.

Light intensity is registered on a scale made of translucent material encased in ground glass, thus assuring constant readings. The inside walls of the channel through which this scale is observed are treated to permit readings free from distortion. The rotating scale is supported by bearings, which assures ease of operation and long usage.

The meter is made of a durable black plastic (Polystyrene) and the case is of blue Tenite.

Ampro Projectors

The new Ampro YC (\$195.00) is convertible into Sound Model YSA. This projector has a 1600-ft. reel



capacity. Conversion price will be announced. Ampro-sound Models X, Y, and YS have been changed to Models XA, YA, and YSA.

Fluorescent Lamps Reduced

General Electric announces price reductions averaging 15% on fluorescent lamps. The reductions cover the entire line of lamps from the 15-watt unit, 18" long to the 40-watt size measuring four feet. Projector spot and flood lamps have been reduced from \$1.70 to \$1.40.

Defender's Perforated Envelope

Defender Photo Supply Company, Inc., Rochester, New York, is now packaging all photographic papers in a new, easy-opening envelope, made with a double perforation across the flap, giving quick access to the contents. Paper sizes up to 11 x 14" are now packaged in this envelope.

Bell & Howell Titler

The new 16 mm. Filmo Titler has a "visual centering" feature to center titles accurately through the camera viewfinder.



Consisting of camera carriage, title card holder and two swiveled reflectors for No. 1 photofloods, the titler can be used in horizontal position or vertically as an animation stand. For further information write to Bell & Howell Co., 1801 Larchmont Ave., Chicago, Ill

Viewfinder

Bell and Howell Co. announce that the positive type viewfinder on Filmo 141 and Turret 8 cameras is now available as an accessory for all Filmo 70 and Double Eight cameras. With this viewfinder the image remains fixed on the glass, regardless of how the operator's eye may shift around the eyepiece, and the full image fills the entire viewfinder glass, no matter how long a telephoto or how short a wide-angle lens may be used. No masking of the field is necessary for the longer focal length lenses.

Of interest to owners of Filmo 70-D turret-head cameras is the viewfinder turret which holds three positive objectives, matching the three lenses on the camera turret.

Source: Bell & Howell Company, 1801 Larchmont Ave., Chicago, Illinois.

8mm, Titler Uses Standard, Low-Wattage Lamps With Super X, Hypan

The new fast 8mm. films can be used to advantage in the Filmo 8mm. Titler. The standard, inexpensive 25-watt frosted lamps of line voltage should be used for correct exposure of titles and of small, 3-dimension objects which may be filmed within the title field.

These lamps are available everywhere, and will not be listed by Bell & Howell. However, the Filmo 8mm. Titler will continue to include, as standard equipment, the four higher-wattage lamps which cover the slower 8mm. films—positive, regular panchromatic, Type A Kodachrome, and regular Kodachrome with Mazda filter.

For further information write the Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Illinois.

Wholesale Camera Supply Co. Moves

The Wholesale Camera Supply Company, distributors of Camera and Projector Cases, Projectors, Cameras, Screens, and Photographic accessories, has moved to larger and more modern offices. Their new address is 29 West 34th Street, opposite the Empire State Building.

George Murphy, Inc., Opens New Store

Located in a modern air-conditioned, building, George Murphy, Inc., now occupies six floors devoted exclusively to photographic materials, in addition to using two more floors in an adjacent building.



Darkrooms, projection room, and an air-conditioned color room are available for the amateur and professional photographer. A special photo-finishing department does both regular and fine-grain developing. A continuous print exhibit of work by individuals, clubs, and photographic salons, showing both color and monochrome, is changed every two weeks. In the basement of the adjoining building, George Murphy, Inc., has opened a photographic bargain store of new and used goods.

Rabsons Movie Service

Rabsons, 111 West 52nd Street, New York City, has a new department in which movie counsel, technical guidance, and film editing service is given. Specialist Fred Tomlin states that the customer's film will be previewed and an editing script and suggested titles

P & H INTRODUCTION Specials



To acquaint more photographers with the superiority of the P & H Developing Process, we offer the following specials for your 35mm. film.

NO. 1—Development by the P & H Method, and one positive transparency film strip or one positive contact strip print. Either, \$1.00.

NO. 2—Development by P & H Method; 3 1/4 x 4 1/2 enlargements of all printable negatives. \$1.50.

NOTE: All transparencies and prints are made on the new "Electric Eye" Printer. All films are treated with P & H Film Guard for protection against scratches, brittleness and finger prints. For further protection they are returned to you in a patented Dual Container.

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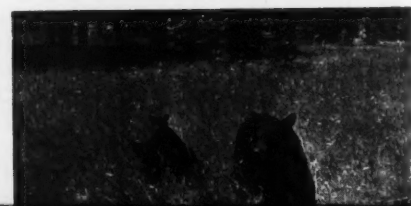
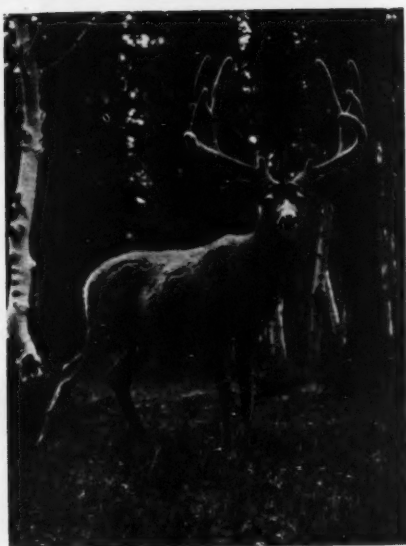
1006 GLENMORE AVE., BROOKLYN, N.Y.



"Why bother about a darkroom to develop film, when it's a lot easier to use a blindfold?"

prepared. When these are approved the work will be done by professionals.

The new Rabson department also will produce commercial and educational films and offer advice on 16mm. projection service.



Bison (above) are frequently found on large ranches and in some of the great national parks. It is dangerous to approach them too closely. These are enlargements from cine films.

Mule deer (left) are very timid. This large buck, however, allowed a nearly direct, uncovered approach as close as 25 yards.

Bighorn ewes (lower left) are extremely shy. By placing a salt bait in their trail and remaining in plain view the photographer was able to remain 12 feet from them while they licked salt.

Bears (bottom left) are easily approached, but always dangerous even though apparently tame. Because of their dark fur, the exposure must be increased to prevent underexposure.

Antelopes (below right) are difficult to photograph, because their protective coloring is similar to their habitat. Moving pictures are more satisfactory than stills because the motions of the "flashing rump" separate the animal from the background.

One of the most dangerous animals to approach is the moose (bottom right). These two ignored the photographer, however, and continued drinking water from a lick in Alberta.



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SHOOT WITH A CINECAM

**There's No Closed Season for the Hunter
Who Bags His Game With a Movie Camera**

By LLOYD C. INGLES, Ph. D.
Illustrated by the Author

WITH every hair erect from the top of her enormous head to the tip of her insignificant tail, the giant moose turned toward us. The deliberate motion with which she executed every movement and the menacing whites that showed in her eyes told us that fifteen feet was just too close for filming moose. With a snort and a crash of breaking willows she charged—and we ran. Thus ended our first experience in big-game movie-hunting. About all we brought back was the realization that we were still alive, having succeeded in outrunning an angry moose in its own habitat.

During three years experience in amateur movie hunting we have found good movie films of animals much more easily obtained than good still pictures. Chief reason for this is the fact that most wild things are less likely to flee from the continuous whir of a motion-picture camera than they are from the single click of the still camera or the motions which are necessary for the changing of the exposed film when using a large view camera.

Hiding or using a blind does little good, I find, when filming mammals; their scent is too keen. Station the camera downwind from the animal's approach and then remain *perfectly still*. By following this rule we have photographed bighorn sheep in Canada at mid-day at a distance of less than twelve feet, and on another occasion, on Mt. Shasta, a weasel that climbed within three feet of the camera to investigate our motionless forms.

Sometimes by stalking an animal slowly but out of sight and up-wind one can approach close enough for the desired foot-

age of film. Some animals are suspicious of any motion that is not in the open and they can be approached best if no attempt is made to keep under cover. We once wasted the better part of an afternoon trying to get within telephoto range of a large buck antelope, first by crawling through the high grass, then by waving a red handkerchief to attract it to us, but all without results. We finally made good movies of the animal at twenty-five yards when we came out into the open and walked not directly toward it but just off to one side.

We bought our movie outfit three years ago for the express purpose of making the kind of movies we had always wanted to see of American wildlife. Sixteen-millimeter equipment was decided upon, because we planned to do some lecture work using the films and would in many cases appear before large audiences. If I were selecting an outfit for home use only, however, I should use 8 mm.

Our field equipment consists of a Filmo 70-D with a turret of three lenses. A general purpose $f3.5$, fixed-focus, one-inch lens serves for a great deal of work where the light is good and the subject is not too close. We also quite frequently use the $f4.5$, four-inch telephoto lens for distant subjects and for smaller animals. Our fast one-inch, $f1.5$ lens is most useful with the many animal subjects that appear only at twilight or, during the day, in the darker parts of the forests where a fast lens is essential.

For example, the only opportunities to take movies of beavers and grizzly bears have come after sunset. (Page 120, please)

White letters pasted on small squares of black paper can be set up under the camera and photographed while the title is read aloud twice. Then turn on a small fan placed just outside the camera field and photograph the letters as they are blown away.

Figs. 1 and 2.



Animated titles can be created quickly and easily with a typewriter. Set the camera above the machine so that the field is small. Start the camera motor and then type out the titles. Capital letters are clearer and easier to read. Figs. 3 and 4.

Titles can also be animated by setting the camera above a sheet of paper and writing them out in longhand while the camera is running. The field should be very small in this case in order to make the handwriting large enough when projected. Figs. 5 and 6.

Animate YOUR

THE studios that sell next week's movies to 40,000,000 customers know the value of action and life in titles. Putting motion in titles sets them apart from the conventional still title, although this procedure calls for painstaking handwork or time-consuming camera operation.

The accompanying illustrations show ways in which animated titles can be created with average equipment and little more effort than is entailed in operating the camera on an ordinary scene.

Figs. 3 and 4 illustrate the creation of an effect that is often used by professionals. Fig. 3 shows the camera set up to cover the platen or roller of the typewriter. Do not include too much of the machine, for the increase in the field will create confusion and make the lettering too insignificant. The camera can be run with one hand while the title is pecked out with the other. Using the shift lock on the typewriter and writing in capital letters will produce clearer characters. The resulting picture can represent a scene in a telegraph or news service office, if it fits the story. The effectiveness of this technique lies in the use of motion. The letters appearing one after the other, as if by magic, compel the beholder to rivet his attention on the screen. It's the same psychology as that of an animated electric sign. He simply must see what the message will be when it is finished.

Fig. 5 shows a similar set-up, except that the title is being written by hand. How the projected results appear is shown in Fig. 6. Invitations such as "Come With Us to the Seashore," "Let's Go Fishing," etc., written in this fashion are an intriguing way of introducing scenes.

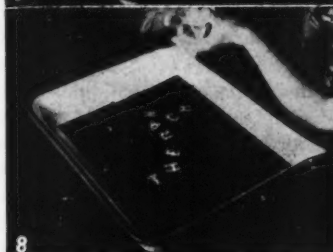
In Fig. 11 a cord has been twisted into letters forming the title. When the cord is pulled at one or both ends the letters



7



9



8



10

Motion can also be supplied by a stream of water, making an effective title for a summer vacation reel or an ocean voyage. Photograph the title set up in a shallow pan. While the camera is running pour a stream of water into the tray sufficient to cause the letters to float out of position. Figs 7 and 8.

TITLES

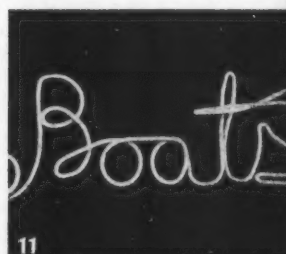
By VICTOR WASSON
Illustrated by the Author

flatten into a straight line as shown in Fig. 12. An effective title can be made by going through this procedure twice, once as described above and once with the title upside down in relation to the camera. When this last action is cut from the film and turned end for end the motion will be backward. With both sequences spliced into the reel the effect will be one of a straight cord curling itself into the title and flattening itself again. Of course, the hands are kept out of the frame, thus increasing the effect. Wetting the cord will make it more pliable.

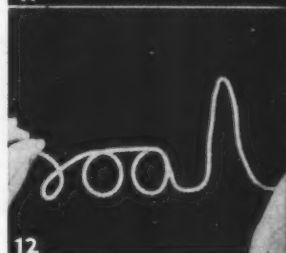
In Fig. 1, title letters are laid on small squares of black paper or inked on by hand. These squares are placed on a black background and the camera run while the titles are read aloud twice. Then a fan is turned on and the title blown away. The effect of the title blowing on into exact position and blowing off again is accomplished by filming once upside down and splicing as explained for Figs. 11 and 12.

Fig. 7 shows the letters of a title placed on a piece of black card and the card laid in the bottom of a shallow pan such as a developing tray. The camera is started and after sufficient time has elapsed for comfortable reading, a quantity of water is poured into the tray sufficient to cause the letters to float out of position, as in Fig. 8. By following the once upright, once upside down technique, the effect of letters floating into position and floating away again may be achieved.

When filming double sequences, be certain that the letters are in the same positions for each filming, so that when the two scenes embodying reversed and direct action are spliced together there will be no change in the position of the title, the entire sequence appearing as one continuous piece of action. More effective results are obtained by keeping the



11



12

Titles can be made to spell themselves out letter by letter. Place one letter on the appropriate background, run a few frames in the camera, stop the motor, place another letter in position and repeat until the words are spelled out. Figs. 9 and 10. Rope made pliable by wetting makes excellent titles. To inject motion, pull the cord at one or both ends to flatten the letters into a straight line. Photograph this procedure twice, once with the title upside down. Cut and splice these two sequences so that the rope appears to be curling itself into the title and then straightening out. Figs. 11 and 12.

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hands and gadgets used to produce title
effects out of the frame.

An animated title can be created easily
by placing one letter at a time in its proper
position as in Fig. 9. After each letter is
placed, the camera is run a few frames
and stopped. Then the next letter is
placed, a few frames exposed, etc. The
effect is one of words spelling themselves
out, the hands not appearing at all. Then
either apply the reversed and direct action
technique, or take the letters off the be-
ginning of the title as you add them at the
end as in Fig. 10, leaving enough in the
middle, usually four or five words, to make
comfortable reading. These are but a few
of the varied effects achieved with simple
props and some imagination. Use these
title ideas, then add new wrinkles and in-
novations of your own to put pep into
your titles.

Shoot with a Cinecam

(Continued from page 117)

In each case, an f1.5 lens was used wide
open. The usefulness of this lens increased
when we began using color film, for Koda-
chrome is relatively slow.

While hunting for game the camera is
usually carried across the shoulder
mounted on a strong wooden tripod, or if
the going is rough, it is carried, still
mounted on the tripod ready for use, in a
strong ruck-sack. Fully ninety percent of
our twenty-four hundred feet of movie
film of wild animals is made from the
tripod within fifty yards of the game.

An essential piece of equipment is a
good exposure meter. But a light meter
"sees" a wider angle of landscape than
does even the one-inch lens of a 16 mm.
camera. A meter reading of a bear amid
light-colored, dried grass will be too high.
Furry animals reflect little light compared

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with light surroundings. The opposite is true of a white mountain goat standing on the side of a dark cliff. In such cases, expose for the center of interest rather than for the scenery.

I like to select something of about the same shade as the subject and measure its reflected light. For instance, a leather jacket was used on one occasion for a light reading when the object to be photographed was a similarly colored elk standing in a dark fir forest a hundred yards away.

In the selection of film, I find the fast, fine-grained panchromatic films are the most versatile. They have a wide latitude of exposure and satisfactory movies may be made even after sundown when so many wild things begin their nocturnal activities. In good light, Kodachrome film produces beautiful results but it has the disadvantages of being slow and in having a narrow exposure latitude. If used early in the morning or late in the afternoon when there is an abundance of red light, the processed film has an all-over reddish cast that occasionally enhances the appearance of the scenes but more frequently is objectionable.

Hunting with a moving picture camera, like hunting with a rifle, provides hazardous moments—and also the satisfaction of “bringing home” wild animals taken in their native environment. Camera hunting, of course, has the greater advantage in that the camera hunter can enter the national parks or refuges where game abounds and shoot to his heart's content with no closed season.

I often must choose between equipment I would like to take and what can be carried safely where the going is rough. But a sturdy tripod, a weatherproof case or cover for equipment that moisture can damage and plenty of film are on the “must” list.

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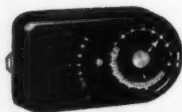
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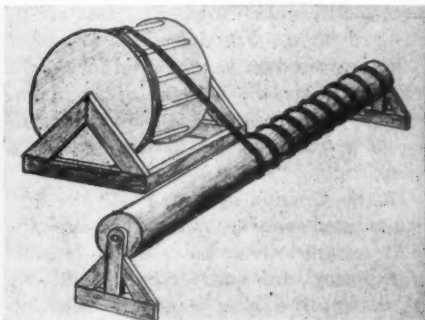


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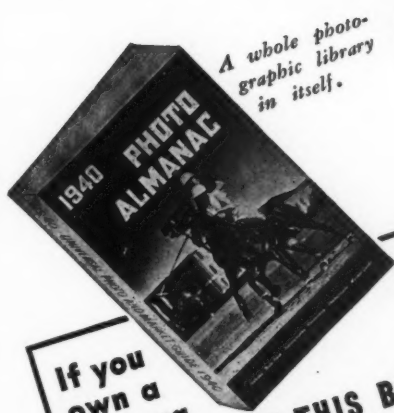
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